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[Page 81424-81427]
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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-1250; Directorate Identifier 2010-SW-075-AD; Amendment 39-16548; AD 2010-26-09]

RIN 2120-AA64

Airworthiness Directives; Sikorsky Aircraft Corporation (Sikorsky) Model S76A, B, and C Helicopters

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment supersedes an existing emergency airworthiness directive (EAD) for the specified Sikorsky model helicopters. The EAD requires inspecting the LITEF Attitude Heading and Reference System (AHRS) unit of the navigation system to determine if it is at a Mod Status "18." If either AHRS unit is at Mod Status "18," the EAD requires installing placards on the instrument panel to prohibit single pilot instrument flight rule (IFR) and single pilot night flight and reducing airspeeds to 120 knots indicated airspeed (KIAS) if both autopilots uncouple during instrument meteorological conditions (IMC) or night flight. The EAD also requires inserting minimum crew and airspeed limitations into the Limitations section of the applicable Rotorcraft Flight Manual (RFM) to limit the minimum flight crew to 2 pilots for night flight and IFR flight and to reduce airspeed to 120 KIAS if both autopilots uncouple during IMC or night flight. This amendment contains the same requirements but draws the appropriate distinctions between IFR and IMC as used in the intended operating limitations. Also, unlike the EAD, this AD states the airspeed must be reduced to 120 KIAS if both autopilots uncouple during IMC or night flight. Further, we are removing the limitation contained in the Active Temporary Revisions relating to pilots keeping their hands and feet near the flight controls. This AD was prompted by the need to supersede the EAD to state the distinction between IFR and IMC as used in the operating limitations and to reduce the airspeed to 120 KIAS if both autopilots uncouple during IMC or night flight. The actions specified by this AD are intended to implement operating limitations based on an anomaly in the AHRS related to the 26 volt AC inverter that could result in a decoupling of both autopilots and to prevent loss of control of the helicopter during IMC and during night flight.

DATES: Effective January 12, 2011.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of January 12, 2011.

We must receive comments on this AD by February 28, 2011.

ADDRESSES: Use one of the following addresses to comment on this AD.

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, 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 Technical Support, mailstop s581a, 6900 Main Street, Stratford, CT, telephone (203) 383-4866, e-mail address tsslibrary@sikorsky.com, or at <http://www.sikorsky.com>.

Examining the Docket: You may examine the docket that contains the AD, any comments, and other information on the Internet at <http://www.regulations.gov>, or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Operations office (telephone (800) 647-5527) is located in Room W12-140 on the ground floor of the West Building at the street address stated in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Tony Pigott, Aviation Safety Engineer, Boston Aircraft Certification Office, 12 New England Executive Park, Burlington, MA 01803, telephone (781) 238-7158, fax (781) 238-7170.

SUPPLEMENTARY INFORMATION: On May 19, 2010, we issued EAD No. 2010-11-52, to require inspecting the AHRS unit to determine if it is at a Mod Status "18." If the nameplate indicates that either AHRS unit is a Mod Status "18," the EAD requires installing placards on the instrument panel to prohibit single pilot IFR and single pilot night flight and reducing airspeeds to 120 KIAS if both autopilots uncouple during IMC or night flight. The EAD also requires inserting the Active Temporary Revision listed in Table 1 into the Limitations section of the RFM to limit the minimum flight crew to 2 pilots for IFR and night flight. That action was prompted by reports of intermittent malfunctions of the LITEF AHRS units of the navigation system. The EAD states that the condition, if not corrected, could result in malfunction of the autopilots, inability to reset the autopilots, an uncommanded roll, reduction in rotorcraft functional capabilities, inability of the crew to perform the required tasks, and subsequent loss of control of the helicopter.

Since issuing EAD 2010-11-52, we have discovered that we did not draw the appropriate distinctions between IFR and IMC as used in the intended operating limitations, and we did not state the requirement to reduce the airspeed to 120 KIAS if both autopilots uncouple during IMC or night flight. Further, we did not intend to adopt as a limitation the provision contained in the Active Temporary Revisions relating to pilots keeping their hands and feet near the flight controls as this is considered normal conduct of a helicopter pilot exercising good care and sound judgment regardless of the AHRS unit installed.

We have reviewed Sikorsky Alert Service Bulletin No. 76-34-11, dated May 17, 2010 (ASB). The ASB specifies informing operators of an interim minimum flight crew restriction of two pilots for IFR and night flight for helicopters equipped with LITEF LCR-100, Mod Status "18," AHRS units. The ASB also specifies removing and inspecting the AHRS units to determine if part number (P/N) 145130-7100, Mod Status "18," is installed, and if it is installed, identifying the unit with a placard with a different P/N. Finally, the ASB specifies installing 2 placards, P/N SS9140-1746, or locally fabricated placards, one on each side of the instrument panel.

Since an unsafe condition has been identified that is likely to exist or develop on other Sikorsky model helicopters of these same type designs, this AD supersedes EAD 2010-11-52 by retaining the

current requirements but by clarifying the appropriate distinctions between IFR and IMC as used in the intended operating limitations. Also, in this AD we state the requirement to reduce the airspeed to 120 KIAS if both autopilots uncouple during IMC or night flight. Further, we have removed the Active Temporary Revisions to correct the provision relating to pilots keeping their hands and feet near the flight controls. In the place of the Active Temporary Revisions, we are now requiring you to insert a copy of this AD into the Limitations section of the applicable RFM to address the airspeed limitations and the minimum flight crew. Accomplish the actions in this AD by following specified portions of the ASB described previously. This AD does not require installing placards containing the Sikorsky P/N 76070-60019-101 on the AHRS unit as specified in the Sikorsky ASB. Also, this AD revises the unsafe condition statement by stating that the actions are intended to implement operating limitations based on an anomaly in the AHRS related to the 26 volt AC inverter that could result in a decoupling of both autopilots and to prevent loss of control of the helicopter during IMC and night flight.

The short compliance time involved is required because the previously described critical unsafe condition can adversely affect the controllability of the helicopter. Therefore, determining if the AHRS unit is an affected unit, installing certain placards on the instrument panel, and inserting limitations into the Limitations section of the applicable RFM are required within 5 days, and 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 1 helicopter in the U.S. registry. We estimate it will take about 1 work hour to inspect the AHRS unit to determine if it is a Mod Status "18," 1 work hour to fabricate and install a placard, and 1/2 work hour to revise the RFM. The average labor rate is \$85 per hour and there are only minimal parts costs. Based on these figures, the total cost impact of this AD on U.S. operators is \$213.

Comments Invited

This AD is a final rule that involves requirements affecting flight safety, and we did not precede it by notice and an opportunity for public comment. We invite you to send any written relevant data, views, or arguments regarding this AD. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2010-1250; Directorate Identifier 2010-SW-075-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://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive concerning this AD. Using the search function of the 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).

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, 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 a new AD to read as follows:



2010-26-09 Sikorsky Aircraft Corporation: Amendment 39-16548; Docket No. FAA-2010-1250; Directorate Identifier 2010-SW-075-AD. Supersedes EAD 2010-11-52; Directorate Identifier 2010-SW-059-AD.

Applicability: Model S-76A, B, and C helicopters, with LITEF LCR-100, Attitude Heading and Reference System (AHRS) Unit, part number (P/N) 145130-7100, installed, certificated in any category.

Compliance: Within 5 days, unless accomplished previously, and any time thereafter when installing a LITEF LCR-100, AHRS Unit, P/N 145130-7100.

To implement operating limitations based on an anomaly in the AHRS related to the 26-volt AC inverter that could result in a decoupling of both autopilots and to prevent loss of the helicopter during instrument meteorological conditions (IMC) and while operating under instrument flight rules (IFR) and night flight, do the following:

(a) By referencing the nameplate of the No. 1 and No. 2 AHRS unit, determine whether the modification (Mod) status is at "18." If the Mod status is "18" for either AHRS unit:

(1) Install instrument panel placards as shown in Figure 2 in the areas depicted in Figure 3 of Sikorsky Alert Service Bulletin No. 76-34-11, dated May 17, 2010 (ASB), and by following the Accomplishment Instructions, paragraph 3.A.(6)(c) through (d) of the ASB.

(2) Revise the "Minimum Flight Crew" section of the Operating Limitations section of the Rotorcraft Flight Manual (RFM) as follows: "For helicopters with an LCR-100 Mod Status '18' AHRS installed, two pilots are required for IFR and night flights."

(3) Revise the "Airspeed Limits" section of the Operating Limitations section of the RFM as follows: "For helicopters with an LCR-100 Mod Status '18' AHRS installed, airspeed is limited to 120 knots indicated airspeed (KIAS) when both autopilots are uncoupled and operating at night or in IMC."

(4) When present, remove and discard the following Active Temporary Revisions from the Operating Limitations section of the RFM for each affected helicopter:

Table 1

Model	RFM Document No.	Active Temporary Rev. No.
S-76A	SA-4047-76-1	T-Revision 3
S-76B	SA 4047-76B-1	T-Revision 3
S-76C (TurboMeca Arriel 1S1 engines installed)	SA 4047-76C-1	T-Revision 3
S-76C (TurboMeca Arriel 2S1 engines installed)	SA 4047-76C-10	T-Revision 4
S-76C (TurboMeca Arriel 2S1 engines installed and s/n 760511 and subsequent)	SA 4047-76C-14	T-Revision 4

S-76C (TurboMeca Arriel 2S2 engines installed)	SA 4047-76C-15	T-Revision 1
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(5) Revise the Operating Limitations section of the RFM by inserting a copy of this AD into the appropriate section of the RFM.

(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 Manager, Boston Aircraft Certification Office, FAA, Attn: Tony Pigott, Aviation Safety Engineer, 12 New England Executive Park, Burlington, MA 01803, telephone (781) 238-7158, fax (781) 238-7170.

(c) The Joint Aircraft System/Component (JASC) Code is 3420: Navigation.

(d) Installing the placards shall be done by following the specified portions of Sikorsky Alert Service Bulletin No. 76-34-11, dated May 17, 2010. 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, CT, telephone (203) 383-4866, e-mail address tsslibrary@sikorsky.com, or at <http://www.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.

(e) This amendment becomes effective on January 12, 2011.

Issued in Fort Worth, Texas, on December 13, 2010.

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