[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0335; Directorate Identifier 2013-SW-021-AD;

Amendment 39-18358; AD 2015-26-10]

RIN 2120-AA64

Airworthiness Directives; Sikorsky Aircraft Corporation Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Sikorsky Aircraft Corporation (Sikorsky) Model S-76A, S-76B, and S-76C helicopters. This AD requires inspecting the main gearbox (MGB) lower housing jet bores for leaks, paint or caulk blistering, and liner protrusion. This AD was prompted by several reports of MGB low oil pressure warnings which were determined to be the result of unsecured jet bore liners that had protruded. The actions are intended to prevent failure of the MGB from loss of oil, which could result in subsequent loss of control of the helicopter.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain document listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Sikorsky

Aircraft Corporation, Customer Service Engineering, 124 Quarry Road, Trumbull, Connecticut 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, Texas 76177.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov by searching for or locating Docket No. FAA-2014-0335; 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: Kirk Gustafson, Aviation Safety Engineer, Boston Aircraft Certification Office, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, Massachusetts 01803; telephone (781) 238-7190; email kirk.gustafson@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

On June 2, 2014, at 79 FR 31231, 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 S-76A, S-76B, and S-76C helicopters with a

MGB installed that has undergone certain repairs. The NPRM proposed to require, within 50 hours time-in-service (TIS), inspecting the MGB for leaks, paint or caulk blistering, and liner protrusion. If there is oil leakage or protrusion of a jet bore liner, the NPRM proposed to require replacing the MGB before further flight. The NPRM also proposed to require, within 1,500 hours TIS, replacing the MGB with an MGB that was not subject to the applicability of the NPRM unless it had been repaired in accordance with a later overhaul and repair procedure.

The NPRM was prompted by four reports of protruding jet bore liners on Sikorsky S-76 helicopters with a MGB, part number (P/N) 76351-09000 series, 76351-09500 series, and 76351-09600 series. During an overhaul of the MGB, the jet bore liner retaining pins were not adequately drilled into the liner, allowing the jet bore liner to move in the housing, because the overhaul and repair instruction (ORI) did not adequately describe procedures and housing wall thickness limitations for installing the retaining pins. Movement of the jet bore liner into the housing allows oil to leak between the liner and the housing, possibly resulting in loss of oil in the MGB, which could result in failure of the MGB and subsequent loss of control of the helicopter.

At the time we issued the NPRM, we understood these repairs had been made in accordance with Sikorsky ORI No. 76350-065, Revisions A through E. However, the incident MGBs had only been repaired in accordance with Sikorsky ORI No. 76350-065, Revision A or earlier. Sikorsky ORI 76350-065, Revisions B through F, resolve the unsafe condition by clarifying the retaining pin installation instructions. This AD now reflects that clarification.

Comments

After our NPRM (79 FR 31231, June 2, 2014) was published, we received comments from one commenter.

Request

Sikorsky stated the proposed requirement to overhaul the affected MGBs within 1,500 hours TIS is overly conservative because the daily visual inspection is adequate to ensure safety until the next overhaul period. Sikorsky further commented that the 1,500 hour compliance time would be burdensome to operators and not cost effective. When asked for additional information to support this comment, Sikorsky stated that its maintenance program has a major inspection, and not a MGB overhaul, every 1,500 hours. The major inspection does not require removal of the MGB. Overhaul of the MGB for Model S76A helicopters occurs every 3,250 hours and for Model S76B/C helicopters occurs every 3,750 hours.

We agree. We intended the proposed requirement to provide a terminating action that coincides with overhaul of the MGB. We incorrectly understood the 1,500-hour major inspection involved removing the MGB from the helicopter. We agree that due to the gradual loss of oil, safety is maintained with the repetitive inspections until the MGB is replaced or overhauled when specified in the maintenance program. We have revised paragraph (e)(2) of this AD to require replacement of the MGB "within 3,750 hours TIS" instead of "within 1,500 hours TIS."

Sikorsky also commented that limiting acceptable repairs to those performed in accordance with Sikorksy ORI 76350-065 Revision F was unnecessary because Revision B and subsequent revisions provide installation details that are structurally equivalent to

Revision F. When asked for additional information to support this comment, Sikorsky stated the changes in Revision B clarified the pin retention instructions sufficiently to resolve the oil leakage issue. Although Revision F provides for the installation of an additional pin, Sikorsky stated that this is not a significant change. Sikorsky confirmed that all reports of oil leakage involved repairs using the procedures in Revision A or earlier.

We agree. We reexamined Sikorsky ORI No. 76350-065 and its revisions and found Revisions B through F structurally equivalent with only minor changes and improvements. We have changed paragraphs (a) and (e) of this AD to reference the appropriate revisions of Sikorsky ORI No. 76350-065.

FAA's Determination

We have reviewed the relevant information, considered the comments received, 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 with the changes described previously. These changes are consistent with the intent of the proposals in the NPRM (79 FR 31231, June 2, 2014), and will not increase the economic burden on any operator nor increase the scope of this AD.

Related Service Information under 1 CFR part 51

Sikorsky issued Alert Service Bulletin (ASB) 76-66-50, Basic Issue, dated January 14, 2013 (ASB 76-66-50) for Model S-76A, S-76B, and S-76C helicopters with an MGB P/N 76351-09000 series, 76351-09500 series, and 76351-09600 series, which have been repaired in accordance with ORI No. 76350-065 or ORI No. 76350-065,

Revision A. ASB 76-66-50 describes procedures for inspecting each MGB lower housing jet bore for leaking oil, paint or caulk blistering, and liner protrusion. If there is any liner protrusion or leaking oil between the liner and the housing, the ASB requires replacing the MGB. If there is paint or caulk blistering, the ASB requires further inspecting for leaking oil by replacing the jet bore packing, performing a ground run of the main rotor for 30 minutes, and re-inspecting the jet bore for leaking oil.

This 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.

Other Related Service Information

We also reviewed Sikorsky ORI No. 76350-065, Revision B, dated June 10, 2011; Revision C, dated June 27, 2011; Revision D, dated January 20, 2012; Revision E, dated January 27, 2012; and Revision F, dated May 10, 2012. This service information describes procedures for repairing the retaining ring groove areas of the MGB jet bores and installing retaining pins in the jet bore liners.

Differences Between this AD and the Service Information

The ASB specifies compliance by a specific calendar date, while the compliance time in this AD is in hours TIS. The ASB does not specify a terminating action for the recurring inspections of the MGB jet bores; while this AD does specify a terminating action for the recurring inspections.

Costs of Compliance

We estimate that this AD affects 53 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 the jet bore liners requires about 1.1 work-hours, for a cost per helicopter of $94 and a total cost to US operators of $4,982 per inspection cycle. If required, repairing a jet bore liner requires about 14 work-hours, and required parts cost $200, for a cost per helicopter of $1,390. If required, replacing the MGB requires about 134 work-hours, and required parts cost $994,000, for a cost per helicopter of $1,005,390.

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):

2015-26-10 **Sikorsky Aircraft Corporation (Sikorsky):** Amendment 39-18358; Docket FAA-2014-0335; Directorate Identifier 2013-SW-021-AD.

(a) Applicability

This AD applies to Sikorsky Model S-76A, S-76B, and S-76C helicopters with a main gearbox (MGB) part number (P/N) 76351-09000 series, 76351-09500 series, and 76351-09600 series installed that has been repaired in accordance with Sikorsky Overhaul and Repair Instruction (ORI) No. 76350-065, dated November 12, 1982 (ORI 76350-065), or ORI No. 76350-065, Revision A, dated September 21, 1984 (ORI 76350-065A), certificated in any category.

(b) Unsafe Condition

This AD defines the unsafe condition as an unsecured MGB lower housing jet bore liner. This condition may cause the liner to move out of place, allowing oil to leak from the MGB, resulting in MGB failure and subsequent loss of control of the helicopter.

(c) Effective Date

This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(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 50 hours time-in-service (TIS), and thereafter at intervals not to exceed 6 hours TIS, inspect each MGB lower housing jet bore (jet bore), as depicted in Figures 3 and 4 of Sikorsky S-76 Alert Service Bulletin 76-66-50, Basic Issue, dated January 14, 2013 (ASB 76-66-50), for liner protrusion or movement, paint or caulk blistering, or oil leakage.

(i) If there is any liner protrusion or movement, before further flight, replace the MGB with an MGB that has not been repaired in accordance with ORI 76350-065 or ORI 76350-065A, unless it has been subsequently repaired in accordance with Sikorsky ORI No. 76350-065, Revision B, dated June 10, 2011 (ORI 76350-065B); Sikorsky ORI No. 76350-065, Revision C, dated June 27, 2011 (ORI 76350-065C); Sikorsky ORI No. 76350-065, Revision D, dated January 20, 2012 (ORI 76350-065D); Sikorsky ORI No. 76350-065, Revision E, dated January 27, 2012 (ORI 76350-065E); or Sikorsky ORI No. 76350-065, Revision F, dated May 10, 2012 (ORI 76350-065F).

(ii) If there is any oil leakage or paint or caulk blistering, inspect the jet bore for liner protrusion and perform a leakage check by following the Accomplishment Instructions, Paragraphs 3.C.(1) through 3.C.(6)(a), of ASB 76-66-50.

(iii) If any moisture or droplets of MGB oil are visible on a jet bore after accomplishing the leakage check specified in paragraph 3.C.(6)(a) of ASB 76-66-50, repeat paragraphs 3.C(4) through 3.C(6) of ASB 76-66-50. If any moisture or droplets of MGB oil are still visible, before further flight, replace the MGB with an MGB that has not been repaired in accordance with ORI 76350-065 or ORI 76350-065A, unless it has been subsequently repaired in accordance with ORI 76350-065B, ORI 76350-065C, ORI 76350-065D, ORI 76350-065E, or ORI 76350-065F.

(2) Within 3,750 hours TIS, replace the MGB with an MGB that has not been repaired in accordance with ORI 76350-065 or ORI 76350-065A, unless it has been subsequently repaired in accordance with ORI 76350-065B, ORI 76350-065C, ORI 76350-065D, ORI 76350-065E, or ORI 76350-065F. This is terminating action for the repetitive inspections required by this AD.

(f) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Boston Aircraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to: Kirk Gustafson, Aviation Safety Engineer, Boston Aircraft Certification Office, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, Massachusetts 01803; telephone (781) 238-7190; email kirk.gustafson@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) Additional Information

Sikorsky Overhaul and Repair Instruction No. 76350-065, dated November 12, 1982; Revision A, dated September 21, 1984; Revision B, dated June 10, 2011; Revision C, dated June 27, 2011; Revision D, dated January 20, 2012; Revision E, dated January 27, 2012; and Revision F, dated May 10, 2012, which are not incorporated by reference, contain additional information about the subject of this AD. You may review a copy of this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, Texas 76177.

(h) Subject

Joint Aircraft Service Component (JASC) Code: 6320, Main Rotor Gearbox.

(i) 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-76 Alert Service Bulletin 76-66-50, Basic Issue, dated January 14, 2013.

(ii) Reserved.

(3) For Sikorsky service information identified in this final rule, contact Sikorsky Aircraft Corporation, Customer Service Engineering, 124 Quarry Road, Trumbull, Connecticut 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, Texas 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 December 23, 2015.

John Hardie,

Acting Manager, Rotorcraft Directorate,
Aircraft Certification Service.
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