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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2006-26107; Project Identifier 2004-SW-30-AD; Amendment 39-21549; AD 2021-10-16]

RIN 2120-AA64

Airworthiness Directives; Carson Helicopters, Inc.; Croman Corporation; Sikorsky Aircraft Corporation; and Siller Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all Carson Helicopters, Inc., Model S-61L and SH-3H helicopters; Croman Corporation Model SH-3H helicopters; Sikorsky Aircraft Corporation Model S-61A, S-61D, S-61E, and S-61V helicopters; and Siller Helicopters Model CH-3E and SH-3A helicopters. This AD was prompted by an accident. This AD requires tracking hours time-in-service (TIS) and external lift cycles (lift cycles) for certain main gearbox left and right input freewheel unit (IFWU) assemblies. This AD also requires determining the type of IFWU assembly installed and depending on the results, calculating the moving average, repetitive inspections, recording certain information, replacing parts, and marking parts. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective July 1, 2021.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of July 1, 2021.

ADDRESSES: For service information identified in this final rule, contact your local Sikorsky Field Representative or Sikorsky's Service Engineering Group at Sikorsky Aircraft Corporation, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S; email wcs_cust_service_eng.gr-sik@lmco.com. Operators may also log on to the Sikorsky 360 website at https://www.sikorsky360.com. You may view this service information at the 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. It is also available at https://www.regulations.gov by searching for and locating Docket No. FAA-2006-26107.

Examining the AD Docket

You may examine the AD docket at https://www.regulations.gov by searching for and locating Docket No. FAA-2006-26107; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Isabel Saltzman, Aviation Safety Engineer, Boston ACO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; telephone 781-238-7649; email Isabel.L.Saltzman@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all Sikorsky Aircraft Corporation Model S-61 A, D, E, and V helicopters; Croman Corporation Model SH-3H helicopters, Carson Helicopters, Inc. Model S-61L helicopters; and Siller Helicopters Model CH-3E and SH-3A helicopters. The NPRM published in the Federal Register on October 30, 2006 (71 FR 63272). The NPRM was prompted by an accident in which the left and right IFWU assembly on a helicopter slipped or disengaged resulting in both engines overspeeding, engine shutdowns, and loss of engine power to the transmissions. In the NPRM, the FAA proposed to require creating a component history card or equivalent record and recording the hours TIS and the lift cycles for each affected main gearbox left and right IFWU assembly. The NPRM also proposed to require determining if the IFWU assembly is a repetitive external lift (REL) or non-REL IFWU assembly. The determination includes calculating a moving average of lift cycles per hour TIS at specified intervals on each IFWU assembly. For REL IFWU assemblies, the NPRM proposed to require repetitive inspections, which include visual and dimensional inspections, of the IFWU assembly for wear, surface distress, and endplay, recording certain information, and replacing affected parts with an airworthy part. In addition, the NPRM proposed to require permanently marking the REL IFWU camshafts and gear housings with the letters “REL” on the surface of these parts.

The FAA issued a supplemental notice of proposed rulemaking (SNPRM) to amend 14 CFR part 39 by adding an AD that would apply to all Carson Helicopters, Inc., Model S-61L and SH-3H helicopters; Croman Corporation Model SH-3H helicopters; Sikorsky Aircraft Corporation Model S-61A, S-61D, S-61E, and S-61V helicopters; and Siller Helicopters Model CH-3E and SH-3A helicopters. The SNPRM published in the Federal Register on March 15, 2021 (86 FR 14285). The SNPRM was prompted by a determination that additional camshaft and gear housing part numbers need to be marked and the applicability and certain compliance times need clarification. The SNPRM proposed to require the same actions specified in the NPRM. The SNPRM also proposed to mark additional camshaft and gear housing part numbers. Additionally, the SNPRM clarified the applicability and certain compliance times. The FAA is issuing this AD to address the unsafe condition on these products.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from one commenter. The commenter was Croman Corp. The commenter supported the SNPRM without change.

Conclusion

The FAA reviewed the relevant data, considered the comments received, and determined that air safety requires adopting the AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes, this AD is adopted as proposed in the SNPRM.

Related Service Information Under 1 CFR Part 51

The FAA reviewed Sikorsky Aircraft Corporation Alert Service Bulletin 61B35-67B, Revision B, dated August 11, 2003. This service information specifies, among other actions, procedures for inspections, which includes visual and dimensional inspections, of the IFWU assembly for wear, surface distress, and endplay, and for recording certain information. 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.

Other Related Service Information

The FAA also reviewed Sikorsky Aircraft Corporation All Operators Letter (AOL) CCS-61-AOL-04-0005, dated May 18, 2004. This service information provides an example and additional information about tracking cycles and the moving average procedure.

The FAA also reviewed Sikorsky Aircraft S-61L/N Overhaul Manual, SA4045-83, Revision 20, dated August 15, 2003, as revised by Temporary Revisions 65-193, -194, -195, and -196, which contains the overhaul procedures for the IFWU assembly.

Differences Between This AD and the Service Information

The effectivity of Sikorsky Aircraft Corporation Alert Service Bulletin 61B35-67B, Revision B, dated August 11, 2003, includes Model S-61 L, N, NM, and R helicopters. However, for those helicopters, the unsafe condition is addressed in AD 2007-01-05, Amendment 39-14876 (72 FR 1139, January 10, 2007). Therefore, those helicopters are not included in the applicability of this AD.

Sikorsky Aircraft Corporation Alert Service Bulletin 61B35-67B, Revision B, dated August 11, 2003, specifies contacting Sikorsky and providing information to Sikorsky. This AD does not require you to contact Sikorsky or provide information to Sikorsky.

Costs of Compliance

The FAA estimates that this AD affects 55 helicopters of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Creating history card; determining type of IFWU assembly; inspecting IFWU assemblies; recording information; replacing parts; and marking certain parts	Up to 8 work-hours × $85 per hour = $680	Up to $1,975	Up to $2,655	Up to $146,025

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.

The FAA is 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) Will not affect intrastate aviation in Alaska, 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.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

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:

2021-10-16 Carson Helicopters, Inc.; Croman Corporation; Sikorsky Aircraft Corporation; and Siller Helicopters: Amendment 39-21549; Docket No. FAA-2006-26107; Project Identifier 2004-SW-30-AD.

(a) Effective Date

This airworthiness directive (AD) is effective July 1, 2021.

(b) Affected ADs

None.

(c) Applicability

This AD applies to all helicopters identified in paragraphs (c)(1) through (6) of this AD, certificated in any category including restricted.

(1) Carson Helicopters, Inc., Model S-61L helicopters.
(2) Carson Helicopters, Inc., Model SH-3H helicopters.
(3) Croman Corporation Model SH-3H helicopters.
(4) Sikorsky Aircraft Corporation Model S-61A, S-61D, S-61E, and S-61V helicopters.
(5) Siller Helicopters Model CH-3E helicopters.
(6) Siller Helicopters Model SH-3A helicopters.

(d) Subject

Joint Aircraft System Component (JASC) Code 6310, Engine/Transmission Coupling.

(e) Unsafe Condition

This AD was prompted by an accident in which the left and right input freewheel unit (IFWU) assembly on a helicopter slipped or disengaged, resulting in both engines overspeeding, engine shutdowns, and loss of engine power to the transmissions. The FAA is issuing this AD to address slipping of the main gearbox IFWU assembly, loss of engine power, and subsequent loss of control of the helicopter.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Creation of History Card or Equivalent and Daily Actions

Within 10 hours time-in-service (TIS) after the effective date of this AD, do the actions specified in paragraphs (g)(1) and (2) of this AD.

(1) Create an external lift component history card or equivalent record for each IFWU assembly, part number (P/N) 61074-35000-041 through 61074-35000-063 inclusive.

(2) Count and, at the end of each day's operations, record the number of external lift cycles (lift cycles) performed and the hours TIS for each IFWU assembly, P/N 61074-35000-041 through 61074-35000-063 inclusive. A “lift cycle” is defined as the lifting of an external load and subsequent release of the load. Record the lift cycles and hours TIS on the external lift component history card or equivalent record.

(h) Determination of IFWU Assembly Type and Calculations

(1) Upon reaching 250 hours TIS after the effective date of this AD on each IFWU assembly, P/N 61074-35000-041 through 61074-35000-063 inclusive, determine whether the IFWU assembly is a repetitive external lift (REL) or non-REL IFWU assembly by using a 250-hour TIS moving average. To perform the calculation, divide the total number of lift cycles performed during the first 250 hours TIS by 250. The result will be the first moving average calculation of lift cycles per hour TIS.

(i) If the calculation specified in paragraph (h)(1) of this AD results in more than 6 lift cycles per hour TIS, the IFWU assembly is an REL IFWU assembly.

(ii) If the calculation specified in paragraph (h)(1) of this AD results in 6 or less lift cycles per hour TIS, the IFWU assembly is a Non-REL IFWU assembly.

(2) For each IFWU assembly determined to be a Non-REL IFWU assembly based on the first calculation of the 250-hour TIS moving average for lift cycles specified in paragraph (h)(1) of this AD: Within 50 hours TIS after the determination, and thereafter at intervals of 50 hours TIS, recalculate the average lift cycles per hour TIS to determine whether the IFWU assembly is an REL or non-REL IFWU assembly. To perform the calculation, subtract the total number of lift cycles performed during the first 50-hour TIS interval used in the previous moving average calculation from the total number of lift cycles performed on the IFWU assembly during the previous 300 hours TIS. Divide this result by 250. The result will be the next or subsequent moving average calculation of lift cycles per hour TIS.

(i) If any calculation specified in paragraph (h)(2) of this AD results in more than 6 lift cycles per hour TIS, the IFWU assembly is an REL IFWU assembly.

(ii) If any calculation specified in paragraph (h)(2) of this AD results in 6 or less lift cycles per hour TIS, the IFWU assembly is a Non-REL IFWU assembly.

Note 1 to paragraph (h)(2): Sikorsky Aircraft Corporation All Operators Letter (AOL) CCS-61-AOL-04-0005, dated May 18, 2004, provides an example and additional information about tracking cycles and the moving average procedure.

Note 2 to paragraph (h)(2): The following is a sample calculation for subsequent 50 hour TIS intervals. Assume the total number of lift cycles for the first 50 hour TIS interval used in the previous moving average calculation = 450 lift cycles and the total number of lift cycles for the previous 300 hours TIS = 2,700 lift cycles. The subsequent moving average of lift cycles per hour TIS = (2,700-450) divided by 250 = 9 lift cycles per hour TIS.

(3) Once an IFWU assembly is determined to be an REL IFWU assembly, it remains an REL IFWU assembly for the rest of its service life and is subject to the inspection for REL IFWU assemblies required by paragraph (i) of this AD.

(4) Once an IFWU assembly is determined to be an REL IFWU assembly, you no longer need to perform the 250-hour TIS moving average calculation required by paragraph (h)(2) of this AD, but you must continue to count and record the lift cycles as required by paragraph (g)(2) of this AD.

(i) Repetitive Inspections of REL IFWU Assemblies and Replacement

For each REL IFWU assembly, as determined by paragraph (h)(1) or (2) of this AD:

(1) Within 500 hours TIS or 7,500 lift cycles, whichever occurs first since the assembly was determined to be a REL IFWU assembly, and thereafter at intervals not to exceed 500 hours TIS or 7,500 lift cycles, whichever occurs first, inspect for wear, surface distress, and endplay by following paragraphs B.(1) through B.(6) of the Accomplishment Instructions of Sikorsky Aircraft Corporation Alert Service Bulletin 61B35-67B, Revision B, dated August 11, 2003. Record all the information specified in Figures 1 through 3 of the Sikorsky Aircraft Corporation Alert Service Bulletin 61B35-67B, Revision B, dated August 11, 2003. You may record this information on any suitable maintenance record, or you may use the Sikorsky evaluation forms provided in Sikorsky Aircraft Corporation Alert Service Bulletin 61B35-67B, Revision B, dated August 11, 2003. This AD does not require you to contact Sikorsky or provide information to Sikorsky.

(2) If during any inspection required by paragraph (i)(1) of this AD, any IFWU assembly part is found whose average wear, wear marks, surface distress, or endplay exceeds the limits specified in paragraphs B.(1) through B.(6) of the Accomplishment Instructions of Sikorsky Aircraft Corporation Alert Service Bulletin 61B35-67B, Revision B, dated August 11, 2003, before further flight, replace the affected part with an airworthy IFWU assembly part.

Note 3 to paragraph (i)(2): Sikorsky Aircraft S-61L/N Overhaul Manual, SA4045-83, Revision 20, dated August 15, 2003, as revised by Temporary Revisions 65-193, -194, -195, and -196, contains the overhaul procedures for the IFWU assembly.

(j) Part Marking

For each REL IFWU assembly, as determined by paragraph (h)(1) or (2) of this AD: Before further flight after the assembly was determined to be an REL IFWU assembly, permanently mark IFWU camshafts, P/N 61350-24052, 61350-24072, S6135-20611, S6135-20614 and S6137-23075, and IFWU gear housings, P/N 61350-24051, 61350-24068, S6135-20695, and S6137-23057, with the letters “REL”. Mark the camshafts by applying etching ink on the surface of the part that is 0.5-inch square with the depth of the letters not to exceed 0.001 inch. Before further flight and after etching, neutralize the etched surface and oil to prevent corrosion.

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (l)(1) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(l) Related Information

(1) For more information about this AD, contact Isabel Saltzman, Aviation Safety Engineer, Boston ACO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; telephone 781-238-7649; email Isabel.L.Saltzman@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (m)(3) and (4) of this AD.

(m) 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 Aircraft Corporation Alert Service Bulletin 61B35-67B, Revision B, dated August 11, 2003.

(ii) [Reserved]

(3) For service information identified in this AD, contact your local Sikorsky Field Representative or Sikorsky's Service Engineering Group at Sikorsky Aircraft Corporation, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S; email wcs_cust_service_eng.gr-sik@lmco.com. Operators may also log on to the Sikorsky 360 website at https://www.sikorsky360.com.

(4) You may view this service information at the 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, email: fedreg.legal@nara.gov, or go to: https://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on May 4, 2021.

Gaetano A. Sciortino,

Deputy Director for Strategic Initiatives, Compliance & Airworthiness Division, Aircraft Certification Service.

[FR Doc. 2021-11081 Filed 5-26-21; 8:45 am]