



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2024-2555; Project Identifier AD-2024-00214-R; Amendment 39-23089; AD 2025-15-02]

RIN 2120-AA64

Airworthiness Directives; Siam Hiller Holdings, Inc.

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Siam Hiller Holdings, Inc. (Siam Hiller), Model UH-12E (Army OH-23G and H-23F) and UH-12E-L helicopters. This AD was prompted by reports of cracks found in a main rotor (M/R) transmission drive shaft (drive shaft). This AD requires inspecting certain M/R drive shafts for a crack, prohibits installing certain M/R drive shafts unless the inspection is done, and prohibits using certain paint strippers. The FAA is issuing this AD to address the unsafe condition on these products.

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

ADDRESSES:

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2024-2555; 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: Eduardo Orozco-Duran, Aviation Safety Engineer, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712; phone: (562) 627-5264; email: eduardo.orozco-duran@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 certain Siam Hiller Model UH-12E (Army OH-23G and H-23F) and UH-12E-L helicopters. The NPRM was published in the *Federal Register* on January 14, 2025 (90 FR 03046). The NPRM was prompted by reports of two cracks in an M/R drive shaft that were found during an inspection involving a Siam Hiller Model UH-12E helicopter. In the NPRM, the FAA proposed to require inspecting certain M/R drive shafts for a crack, prohibit installing certain M/R drive shafts unless the inspection is done, and prohibit using certain paint strippers. The FAA is issuing this AD to address non-conforming parts and the use of improper paint stripper; and to detect cracking of the M/R drive shaft. The unsafe condition, if not addressed, could result in separation of the M/R drive shaft and M/R blades from the helicopter and consequent loss of control of the helicopter.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from Summit Helicopters, Inc (Summit Helicopters). The following presents the comments received on the NPRM and the FAA's response to each comment.

Request To Extend Compliance Times

Summit Helicopters stated the compliance time proposed in the NPRM would create significant economic impact for their company and is requesting an additional time margin to be added for the required inspections. The commenter stated that the time required to perform these inspections, as proposed in the NPRM, is significantly short of the actual time it would take to perform these inspections. Summit Helicopters requested to be able to delay inspection until November 2025 or extend compliance to the next scheduled overhaul inspection. Additionally, the commenter provided a detailed explanation of the actions that would be required to comply with the actions of the AD.

The FAA agrees to revise the initial compliance time to be within 4 years of the effective date of this AD or at the next M/R transmission assembly overhaul inspection after the effective date of this AD, whichever comes first.

Request To Revise Cost

Summit Helicopters stated that the cost of the actions proposed in the NPRM did not include the costs of baking, shipping, and other precondition tasks such as the removal, reinstallation, and reassembly of the M/R drive shaft. Summit Helicopters requested changes to the cost of compliance to include the above costs. Summit Helicopters commented that the removal and reinstallation process would take at least an additional 11.5 hours. In addition, Summit Helicopters has also commented that, based on operator experience, the labor work-hours required to strip, bake, inspect, prime, and paint will take approximately 6.5 hours instead of 5 hours.

The FAA partially agrees. The FAA disagrees with providing cost information for shipping, handling, and transportation, or pre-condition tasks such as removal, reinstallation, and reassembly. The cost information specified in the proposed AD describes only the direct costs of the specific actions required by this AD. Based on the best data available, the manufacturer provided the number of work-hours necessary to do the required actions. This number represents the time necessary to perform only the actions actually required by this AD. The FAA recognizes that, in doing the actions required by an AD, operators might incur incidental costs in addition to the direct costs. The cost analysis in AD rulemaking actions, however, typically does not include incidental costs such as the time necessary for planning or time necessitated by other administrative actions. Those incidental costs might vary significantly among operators. In addition, the total amount of work-hours will only account for the total work-hours for the corrective actions and not the 11.5 work-hours required for pre-condition tasks and the 24 work-hours associated with relief baking span time. As stated previously, it is also important to note that special flight permits are allowed in the AD, therefore operators are allowed to transport their helicopters to any repair facility to have these actions performed. However, the FAA agrees to update the cost of compliance to reflect an accurate estimate due to Summit Helicopter experience of work-hours required to

perform corrective actions to paint strip, relief bake, inspect, prime and paint. The FAA also accepts the provided estimate as our initial analysis did not consider the availability of outsized ovens and will assume that it is \$1,850 for each shaft. Therefore, the FAA is updating the cost to be up to \$1,850 based on the size of the oven and increasing the total work-hours from 5 work-hours to 6.5 work-hours.

Request To Remove the Requirement to Use Certain Materials

Summit Helicopters requested that the FAA provide additional specifications that meet the requirements of paint strippers with specifications TT-R-248B and TT-R-2918A Type I. The commenter stated that during its initial search, it was difficult to find paint stripper with specifications TT-R-248B and TT-R-2918A Type I. Summit Helicopters suggested replacing the requirement for the use of the specified paint stripper with one more readily available.

The FAA disagrees with Summit Helicopters' request to provide additional specifications that meet the need for non-embrittling paint stripper, other than a paint stripper with specifications TT-R-248B or TT-R-2918A Type I because certain paint strippers used in aviation maintenance can pose risks to aircraft materials and structural integrity. Additionally, the FAA provides maintenance and safety guidelines for aircraft paint removal processes to prevent structural damage and ensure airworthiness, which can be found in documents such as Federal Specification TT-R-248B or TT-R-2918A Type I. Operators that prefer to accomplish this action by means other than those specified in this AD may submit an alternative method of compliance, as indicated in paragraph (i) of this final rule. However, the FAA did revise the reference to the paint stripper specifications in paragraphs (g)(1) and (h)(2) of this AD to remove the revision letter from the number, in an effort to improve search results for operators.

Conclusion

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

proposed in the NPRM. None of the changes will increase the economic burden on any operator.

Costs of Compliance

The FAA estimates that this AD affects 110 helicopters of U.S. registry. Labor costs are estimated at \$85 per hour. Based on these numbers, the FAA estimates the following costs to comply with this AD.

Removing the coatings, hydrogen embrittlement relief baking, and magnetic particle inspecting the M/R drive shaft takes 6.5 work-hours and parts cost up to \$1,850 for an estimated cost of \$2,402.50 per helicopter and \$264,275 for the U.S. fleet. If required, replacing the M/R drive shaft takes 5 work-hours and parts cost \$15,000 for an estimated cost of \$15,425 per helicopter.

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:

2025-15-02 Siam Hillar Holdings, Inc.: Amendment 39-23089; Docket No. FAA-2024-2555; Project Identifier AD-2024-00214-R.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD Applies to Siam Hiller Holdings, Inc., Model UH-12E (Army OH-23G and H-23F) and UH-12E-L helicopters, certificated in any category, with a main rotor (M/R) transmission drive shaft (drive shaft) having part number (P/N) 23600 installed.

Note 1 to paragraph (c): Hiller Aircraft Corporation Main Rotor Transmission Assembly Overhaul Manual, Manual 63-20, for UH-12E Series Helicopters, accepted May 6, 2015, contains additional information pertaining to inspecting the M/R drive shaft and refers to an M/R drive shaft as a transmission M/R mast and M/R drive shaft, interchangeably.

(d) Subject

Joint Aircraft System Component (JASC) Code 6230, Main Rotor Mast/Swashplate.

(e) Unsafe Condition

This AD was prompted by reports of cracks in the M/R drive shaft. The FAA is issuing this AD to address non-conforming parts and the use of improper paint stripper; and to detect cracking of the M/R drive shaft. The unsafe condition, if not addressed, could result in separation of the M/R drive shaft and M/R blades from the helicopter and consequent loss of control of the helicopter.

(f) Compliance

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

(g) Required Actions

At the next overhaul inspection of the M/R transmission assembly or within 4 years after the effective date of this AD, whichever comes first, with the M/R drive shaft removed, inspect the M/R drive shaft by accomplishing the actions required by paragraphs (g)(1) through (3) of this AD.

(1) Remove all coatings from all surfaces of the M/R drive shaft by using paint stripper TT-R-248 or TT-R-2918 Type I.

(2) Hydrogen embrittlement relief bake the M/R drive shaft for 24 hours minimum at $375^{\circ}\text{ F} \pm 25^{\circ}\text{ F}$.

(3) Magnetic particle inspect all surfaces of the M/R drive shaft for a crack. If there is a crack, before further flight, remove the M/R drive shaft from service and install an airworthy M/R drive shaft.

Note 2 to paragraph (g): Hiller Aircraft Corporation Main Rotor Transmission Assembly Overhaul Manual, Manual 63-20, for UH-12E Series Helicopters, accepted May 6, 2015, contains additional information pertaining to inspecting the M/R drive shaft, applying appropriate coatings to the M/R drive shaft, and returning the helicopter to service.

(h) Parts Installation Limitations

(1) As of the effective date of this AD, do not install an M/R drive shaft having P/N 23600 on any helicopter unless the actions required by paragraphs (g)(1) through (3) of this AD have been accomplished.

(2) As of the effective date of this AD, do not use any paint stripper other than TT-R-248 or TT-R-2918 Type I to remove coatings from all areas of the M/R drive shaft.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, West Certification 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 West Certification Branch, send it to the attention of the person identified in paragraph (j)(1) of this AD and email to: 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.

(j) Additional Information

(1) For more information about this AD, contact Eduardo Orozco-Duran, Aviation Safety Engineer, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712; phone: (562) 627-5264; email: eduardo.orozco-duran@faa.gov

(2) For Hiller Aircraft Corporation material identified in this AD that is not incorporated by reference, contact Hiller Aircraft Corporation, 925 M Street, Firebaugh, CA 93622; phone: (559) 659-5959; or website: hilleraircraftcorporation.com/.

(k) Material Incorporated by Reference

None.

Issued on August 15, 2025.

Steven W. Thompson,
Acting Deputy Director, Compliance & Airworthiness Division,
Aircraft Certification Service.

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