



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2024-2555; Project Identifier AD-2024-00214-R]

RIN 2120-AA64

Airworthiness Directives; Siam Hiller Holdings, Inc, Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for Siam Hiller Holdings, Inc. (Siam Hiller), Model UH-12E (Army OH-23G and H-23F) and UH-12E-L helicopters. This proposed AD was prompted by reports of cracks found in a main rotor (M/R) transmission drive shaft (drive shaft). This proposed AD would 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 removers. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to [regulations.gov](https://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: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

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 NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

Other Related Material: For Hiller Aircraft Corporation material identified in this proposed AD, contact Hiller Aircraft Corporation, 925 M Street, Firebaugh, CA 93622; phone: (559) 659-5959; or website: hilleraircraftcorporation.com/.

FOR FURTHER INFORMATION CONTACT: Calvin L. Hang, Aviation Safety Engineer, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712; phone: (562) 627-5254; email: Calvin.L.Hang@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2024-2555; Project Identifier AD-2024-00214-R” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may revise this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to [regulations.gov](https://www.regulations.gov), including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each

page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Calvin L. Hang, Aviation Safety Engineer, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712; phone: (562) 627-5254; email: Calvin.L.Hang@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA received a report of two cracks in an M/R drive shaft that were found during an inspection involving a Siam Hiller Model UH-12E helicopter. These cracks resulted from hydrogen embrittlement, possibly due to improper baking after the electroplating process, and certain paint strippers exploiting galvanic potential between the steel and cadmium. Since the affected part may also be installed on Model UH-12E-L helicopters, this model helicopter is also affected by this unsafe condition.

Accordingly, this proposed AD would 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 removers. This condition, if not addressed, could result in could result in loss of the M/R drive shaft and subsequent loss of control of the helicopter.

FAA’s Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Other Related Material

The FAA reviewed Hiller Aircraft Corporation UH-12E Series Helicopters, Main Rotor Transmission Assembly, Overhaul Manual 63-20, dated June 01, 2015. This material specifies overhaul procedures for the M/R transmission assemblies.

Proposed AD Requirements in this NPRM

This proposed AD would require, with the M/R drive shaft removed, removing the coatings from all surfaces of the M/R drive shaft by using certain paint strippers,

hydrogen embrittlement relief baking the M/R drive shaft, and performing a magnetic particle inspection of the M/R drive shaft for a crack. Depending on the results of the magnetic particle inspection, this proposed AD would require removing the M/R drive shaft from service and installing an airworthy part. This proposed AD would also prohibit installing an affected M/R drive shaft on any helicopter unless the actions required by this proposed AD have been accomplished and prohibit using certain paint removers on the M/R drive shaft.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 110 helicopters of U.S. registry. Labor costs are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this proposed AD.

Removing the coatings, hydrogen embrittlement relief baking, and magnetic particle inspecting the M/R drive shaft would take 5 work-hours and parts would cost \$500 for an estimated cost of \$925 per helicopter and \$101,750 for the U.S. fleet. If required, replacing the M/R drive shaft would take 5 work-hours and parts would 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

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would 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 Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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:

Siam Hiller Holdings, Inc.: Docket No. FAA-2024-2555; Project Identifier AD-2024-00214-R.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 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 material 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 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 subsequent loss of control of the helicopter.

(f) Compliance

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

(g) Required Actions

For an M/R drive shaft that has accumulated 1,200 or more total hours time-in-service (TIS) or 4 or more years since new, or at the next overhaul of the M/R transmission assembly after the effective date of this AD, whichever occurs 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-248B or TT-R-2918A Type I.

(2) Hydrogen embrittlement relief bake the M/R drive shaft for 24 hours minimum at 375° F ± 25° F.

(3) Magnetic particle inspect all surfaces of the M/R drive shaft for a crack. This magnetic particle inspection must be accomplished by a Level II or Level III inspector certified in the FAA-acceptable standards for nondestructive inspection personnel. 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)(3): Advisory Circular 65-31B contains examples of FAA-acceptable Level II and Level III qualification standards criteria for inspection personnel doing nondestructive test inspections.

Note 3 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.

(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 other paint stripper other than TT-R-248B or TT-R-2918A 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. Information may be emailed 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 Calvin L. Hang, Aviation Safety Engineer, FAA, 3960 Paramount Boulevard, Lakewood, CA 90712; phone: (562) 627-5254; email: Calvin.L.Hang@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/.

(3) For advisory circular material identified in this AD that is not incorporated by reference, go to faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/1023552.

(k) Material Incorporated by Reference

None.

Issued on December 9, 2024.

Victor Wicklund,
Deputy Director, Compliance & Airworthiness Division,
Aircraft Certification Service.

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