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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2023-1820; Project Identifier AD-2023-00510-P; Amendment 39-22721; AD 2024-07-01]

RIN 2120-AA64

Airworthiness Directives; Hamilton Sundstrand Corporation Propellers

AGENCY:

Federal Aviation Administration (FAA), DOT.

ACTION:

Final rule.

SUMMARY:

The FAA is adopting a new airworthiness directive (AD) for all Hamilton Sundstrand Corporation (Hamilton Sundstrand) Model 14SF-7, 14SF-15, and 14SF-23 propellers. This AD was prompted by a report of an auxiliary motor and pump failing to feather a propeller in flight. This AD requires replacing a certain auxiliary motor and pump. This AD also prohibits installation of a certain auxiliary motor and pump. The FAA is issuing this AD to address the unsafe condition on these products.

DATES:

This AD is effective June 3, 2024.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of June 3, 2024.

ADDRESSES:

AD Docket: You may examine the AD docket at *regulations.gov* under Docket No. FAA-2023-1820; 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.

Material Incorporated by Reference:

- For service information identified in this final rule, contact Hamilton Sundstrand, One Hamilton Road, Windsor Locks, CT 06096-1010, phone: (877) 808-7575; email: CRC@collins.com.
- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at *regulations.gov* under Docket No. FAA-2023-1820.

FOR FURTHER INFORMATION CONTACT:

Isabel Saltzman, Aviation Safety Engineer, FAA, 1701 Columbia Avenue, College Park, GA 30337; phone: (781) 238-7649; email: 9-AVS-AIR-BACO-COS@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 Hamilton Sundstrand Corporation (Hamilton Sundstrand) Model 14SF-7, 14SF-15, and 14SF-23 propellers. The NPRM published in the **Federal Register** on September 7, 2023 ([88 FR 61480](#)). The NPRM was prompted by a report of an auxiliary motor and pump installed on a non-Hamilton Sundstrand propeller failing to feather the propeller in flight through either the primary or the backup means. The failure was caused by motor magnets in the auxiliary motor and pump that were de-bonded due to corrosion at the magnet and housing interface. The de-bonded motor magnets prevented motor rotation. Hamilton Sundstrand Model 14SF-7, 14SF-15, and 14SF-23 propellers use the same auxiliary motor and pump. These propellers are installed on, but not limited to, De Havilland Aircraft of Canada Limited (Type Certificate previously held by Bombardier Inc.) Model DHC-8-100 series, DHC-8-200 series, and DHC-8-300 series airplanes. This condition, if not addressed, could result in reduced controllability of the aircraft and consequent loss of control of the aircraft.

In the NPRM, the FAA proposed to require the removal from service of an auxiliary motor and pump having part number (P/N) 782655-3 (Aerocontrol P/N 4122-006009) and replacement with an auxiliary motor and pump having P/N 782655-4 (Aerocontrol P/N 4122-056000). In the NPRM, the FAA also proposed to prohibit the installation of an auxiliary motor and pump having P/N 782655-3 (Aerocontrol P/N 4122-006009) on any propeller. 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 three commenters. The commenters were Collins Aerospace, Sierra Nevada Corporation, and an individual. Sierra Nevada Corporation noted that the AD does not apply to its fleet and had no objection to the NPRM. Two commenters, Collins Aerospace and an individual,

recommended certain changes. The following presents the comments received on the NPRM and the FAA's response.

Request To Clarify the Use of “Any Propeller” in the NPRM

Two commenters, Collins Aerospace and an individual, observed that the use of the phrase “any propeller” in the NPRM causes confusion. The commenters noted that the phrase “any propeller” appears three times in the subject NPRM. Collins Aerospace stated that this use of “any propeller” language has caused some confusion related to AD 2023-16-06 [Amendment 39-22525 ([88 FR 63513](#), September 15, 2023)]. An individual also observed that the use of the word “also” in the sentence, “This AD also prohibits installation of a certain auxiliary motor and pump on any propeller,” in the Summary section of the proposed rule indicates or implies the prohibition is for other propellers in addition to what is identified in the applicability. The commenters requested that the FAA remove the phrase “any propeller” from all preamble and regulatory text regarding an installation prohibition in the AD. The commenters also requested that the FAA write the prohibition to show that it only pertains to the propeller models listed in this AD.

The FAA agrees to clarify regarding the use of the phrase “any propeller” and whether the prohibition only applies to the propeller models list in the AD. For clarification, all of the requirements of an AD can apply only to the propellers listed in the applicability. To eliminate any confusion, however, the FAA revised paragraph (h) of this final rule, Installation Prohibition, to specify that the installation prohibition applies to any propeller identified in paragraph (c) of this AD.

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.

Related Service Information Under [1 CFR Part 51](#)

The FAA reviewed Hamilton Sundstrand Service Bulletin (SB) 14SF-61-168, Revision 1, dated December 21, 2016. This service information specifies instructions for replacing the auxiliary motor and pump. Hamilton Sundstrand Corporation is a UTC Aerospace Systems Company. This service information is identified as both Hamilton Sundstrand Corporation and UTC Aerospace Systems. 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 **ADDRESSES** .

Costs of Compliance

The FAA estimates that this AD affects 180 propellers installed on airplanes 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
Replace auxiliary motor and pump	2 work-hours × \$85 per hour = \$170	\$11,000	\$11,170	\$2,010,600
Perform post-installation system test	1 work-hour × \$85 per hour = \$85	0	85	15,300

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:

2024-07-01 Hamilton Sundstrand Corporation: Amendment 39-22721; Docket No. FAA-2023-1820; Project Identifier AD-2023-00510-P.

(a) Effective Date

This airworthiness directive (AD) is effective June 3, 2024.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Hamilton Sundstrand Corporation (Hamilton Sundstrand) Model 14SF-7, 14SF-15, and 14SF-23 propellers.

Note 1 to paragraph (c):

These propellers are known to be installed on, but not limited to, De Havilland Aircraft of Canada Limited (Type Certificate previously held by Bombardier Inc.) Model DHC-8-100 series, DHC-8-200 series, and DHC-8-300 series airplanes.

(d) Subject

Joint Aircraft System Component (JASC) Code 6123, Propeller Feathering/Reversing.

(e) Unsafe Condition

This AD was prompted by a report of an auxiliary motor and pump failing to feather a propeller in flight. The FAA is issuing this AD to prevent the failure of a certain auxiliary motor and pump to feather propellers. The unsafe condition, if not addressed, could result in reduced controllability of the aircraft and consequent loss of control of the aircraft.

(f) Compliance

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

(g) Required Actions

(1) Within 30 months after the effective date of this AD, remove from service an auxiliary motor and pump having part number (P/N) 782655-3 (Aerocontrolex P/N 4122-006009) and replace with an auxiliary motor and pump having P/N 782655-4 (Aerocontrolex P/N 4122-056000) in accordance with the Accomplishment Instructions, paragraphs 3.B., 3.C., and 3.E. of Hamilton Sundstrand Service Bulletin (SB) 14SF-61-168, Revision 1, dated December 21, 2016 (Hamilton Sundstrand SB 14SF-61-168, Revision 1).

(2) After replacement of the auxiliary motor and pump, perform a post-installation system test in accordance with the Accomplishment Instructions, paragraph 3.F. of Hamilton Sundstrand SB 14SF-61-168, Revision 1.

(h) Installation Prohibition

After the effective date of this AD, do not install an auxiliary motor and pump having P/N 782655-3 (Aerocontrolex P/N 4122-006009) on any propeller identified in paragraph (c) of this AD.

(i) No Return of Parts

Where the service information referenced in the Accomplishment Instructions, paragraph 3.B. of Hamilton Sundstrand SB 14SF-61-168, Revision 1, specifies returning certain parts to the manufacturer for modification, this AD does not include that requirement.

(j) Credit for Previous Actions

You may take credit for the actions required by paragraph (g) of this AD if you performed those actions before the effective date of this AD using Hamilton Sundstrand SB 14SF-61-168, Original Issue, dated December 14, 2016.

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, East 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 branch office, send it to the attention of the person identified in paragraph (l)(1) of this AD. Information may be emailed to: 9-AVS-AIR-BACO-COS@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) Additional Information

(1) For more information about this AD, contact Isabel Saltzman, Aviation Safety Engineer, FAA, 1701 Columbia Avenue, College Park, GA 30337; phone: (781) 238-7649; email: 9-AVS-AIR-BACO-COS@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) Hamilton Sundstrand Corporation Service Bulletin 14SF-61-168, Revision 1, dated December 21, 2016.

Note 2 to paragraph (m)(2)(i):

Hamilton Sundstrand Corporation is a UTC Aerospace Systems Company. This service information is identified as both Hamilton Sundstrand Corporation and UTC Aerospace Systems.

(ii) [Reserved]

(3) For service information identified in this AD, contact Hamilton Sundstrand, One Hamilton Road, Windsor Locks, CT 06096-1010, phone: (877) 808-7575; email: CRC@collins.com.

(4) You may view this service information at FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit www.archives.gov/federal-register/cfr/ibr-locations or email fr.inspection@nara.gov.

Issued on March 26, 2024.

Victor Wicklund,

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

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