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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2023-0018; Project Identifier AD-2022-00883-R; Amendment 39-22430; AD 2023-09-07]**

**RIN 2120-AA64**

### **Airworthiness Directives; Sikorsky Aircraft Corporation Helicopters**

#### **AGENCY:**

Federal Aviation Administration (FAA), DOT.

#### **ACTION:**

Final rule.

#### **SUMMARY:**

The FAA is superseding Airworthiness Directive (AD) 2022-02-01 for Sikorsky Aircraft Corporation Model S-92A helicopters with certain part-numbered main rotor stationary swashplate assemblies (swashplate assemblies) that had accumulated 1,600 or more total hours time-in-service (TIS) installed. AD 2022-02-01 required visually inspecting the swashplate assembly at specified intervals and depending on the results, removing the swashplate assembly from service. Since the FAA issued AD 2022-02-01, the FAA determined it was necessary to expand the applicability and require more detailed inspections to address the unsafe condition. This AD retains the actions of AD 2022-02-01, expands the applicability, adds a detailed recurring visual inspection, and requires either eddy current inspections (ECI) or fluorescent penetrant inspections (FPI). The FAA is issuing this AD to address the unsafe condition on these products.

#### **DATES:**

This AD is effective June 29, 2023.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of June 29, 2023.

The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD as of February 18, 2022 ([87 FR 2316](#), January 14, 2022).

## ADDRESSES:

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2023-0018; 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 a Sikorsky Field Representative or Sikorsky's Service Engineering Group at Sikorsky Aircraft Corporation, Mailstop K100, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-946-4337 (1-800-Winged-S); email: [wcs\\_cust\\_service\\_eng.gr-sik@lmco.com](mailto:wcs_cust_service_eng.gr-sik@lmco.com); website: [sikorsky360.com](https://www.sikorsky360.com).
- You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Parkway, 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 [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2023-0018.

## FOR FURTHER INFORMATION CONTACT:

Jared Hyman, Aerospace Engineer, Airframe Section, East Certification Branch, FAA, 1701 Columbia Avenue, College Park, GA 30337; phone: (781) 238-7305; email: [9-AVS-AIR-BACO-COS@faa.gov](mailto: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](#) to supersede AD 2022-02-01, Amendment 39-21898 ([87 FR 2316](#), January 14, 2022), (AD 2022-02-01). AD 2022-02-01 applied to Sikorsky Aircraft Corporation Model S-92A helicopters with a swashplate assembly part number (P/N) 92104-15011-042 or P/N 92104-15011-043 that had accumulated 1,600 or more total hours TIS, installed. The NPRM published in the **Federal Register** on January 17, 2023 ([88 FR 2558](#)). The NPRM was prompted by a notification of an in-service crack in a swashplate assembly inner ring. The crack, discovered during a routine inspection, extended between the uniball bore and near the right-hand trunnion to servo attach bolt hole. In the NPRM, the FAA proposed to continue to require, for swashplate assemblies that have accumulated 1,600 or more total hours TIS, a certain recurring visual inspection and replacing the swashplate assembly if cracks are found. In the NPRM, the FAA proposed to require accomplishing an FPI or ECI depending on accrued flight time or suspicion of cracks. In the NPRM, the FAA also proposed to expand the visual inspections required by AD 2022-02-01 and revise the applicability statement of AD 2022-02-01.

## Discussion of Final Airworthiness Directive

### Comments

The FAA received a comment from one commenter, Sikorsky Aircraft Corporation. The following presents the comment received on the NPRM and the FAA's response to the comment.

### Request To Clarify Previous Actions for Compliance

Sikorsky Aircraft Corporation requested the FAA change paragraph (f) of the AD to state, "Comply with this AD within the compliance times specified, unless already accomplished by Alert Service Bulletin. Repetitive inspections incorporated into Sikorsky S-92 [Aircraft Maintenance Manual] (AMM), Chapter 5, demonstrate compliance with the repetitive inspections of this Airworthiness Directive." Sikorsky Aircraft Corporation stated that it has issued two alert service bulletins (ASBs) that introduce both a one-time inspection and recurrent inspections for the existing part-numbered stationary swashplate assemblies. In addition, Sikorsky Aircraft Corporation stated that the recurrent inspections have been incorporated into the Sikorsky S-92 AMM, Chapter 5 inspection requirements; and that the introduction of this rule makes these inspections mandatory and the original equipment manufacturer (OEM) agrees. However, Sikorsky Aircraft Corporation stated that from the operator perspective, there may be some confusion as to compliance with the AD. Since the ASBs and Chapter 5 are in place, Sikorsky Aircraft Corporation stated that it may be helpful to add language in the text of the AD explaining that the AD is not introducing a new action if the operator is already following the OEM instructions, which may prevent operators from unnecessarily repeating inspections with which the operator already complied. Lastly, Sikorsky Aircraft Corporation stated that operators who incorporate repetitive inspections into their maintenance programs, in this case the OEM Chapter 5, are demonstrating compliance with the repetitive inspections of this AD.

The FAA disagrees. After reviewing the S-92 AMM tasks, the FAA has determined that the technical content from Sikorsky S-92 Helicopter Alert Service Bulletin ASB 92-62-009, Basic Issue, dated February 6, 2019 (ASB 92-62-009), and Sikorsky S-92 Helicopter Alert Service Bulletin ASB 92-62-010, Basic Issue, dated January 26, 2022 (92-62-010) are not completely incorporated into the AMM tasks. The visual inspection instructions from ASB 92-62-009 are not included in these tasks, and the accomplishment instructions from ASB 92-62-010 have some elements that are missing from some of the AMM tasks. Accordingly, the FAA has determined that the accomplishment instructions of ASB 92-62-009 and ASB 92-62-010 must be done to correct the unsafe condition. In addition, paragraph (f) of the AD specifies to "comply with this AD . . . unless already done." Therefore, if some of the actions required by this AD are already done, only the remaining required actions of this AD must be accomplished in order to comply with 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, 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 ASB 92–62–010, which specifies a visual inspection of the swashplate assembly to determine if there are any cracks and initiates a 50-hour recurring visual inspection. If cracks are found, ASB 92–62–010 specifies replacing the swashplate assembly. Dependent on accrued flight time or suspicion of cracks, an FPI or ECI is performed. ASB 92–62–010 also specifies returning the swashplate assembly, uniball bearing, trunnions, and all attachment hardware to Sikorsky for investigation if cracks are found.

This AD also requires ASB 92–62–009, which the Director of the Federal Register approved for incorporation by reference as of February 18, 2022 ([87 FR 2316](#), January 14, 2022).

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.

### **Differences Between This AD and the Service Information**

The applicability statement in this AD does not identify airframe serial numbers, whereas the effectivity of ASB 92–62–010 does. This AD affects all swashplate assemblies P/N 92104–15011–042 and P/N 92104–15011–043 regardless of delivery date, whereas the effectivity of ASB 92–62–010 is for those part-numbered swashplate assemblies delivered as of January 26, 2022 (the issuance date of ASB 92–62–010). ASB 92–62–009 specifies a one-time visual inspection of the swashplate assembly; this AD requires a recurring visual inspection of the swashplate assembly to determine if any crack, nick, dent, or scratch develops over time. This AD does not require returning parts to or contacting Sikorsky, while ASB 92–62–009 and ASB 92–62–010 specify performing those actions.

### **Costs of Compliance**

The FAA estimates that this AD affects 89 helicopters of U.S. registry. The FAA estimates the following costs to comply with this AD. Labor costs are estimated at \$85 per work-hour.

Visually inspecting a swashplate assembly takes about 1.0 work-hour, for an estimated cost of \$85 per helicopter and \$7,565 for the U.S. fleet, per inspection cycle.

Performing an ECI or FPI takes about 8.0 work-hours, for an estimated cost of \$680 per helicopter and \$60,520 for the U.S. fleet, per inspection cycle.

Replacing the swashplate assembly, if required, takes about 16 work-hours and parts cost about \$389,720, for an estimated cost of \$391,080 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 has determined that 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:

- a. Removing Airworthiness Directive 2022–02–01, Amendment 39–21898 ( [87 FR 2316](#), January 14, 2022); and

- b. Adding the following new airworthiness directive:

**2023–09–07 Sikorsky Aircraft Corporation:** Amendment 39–22430; Docket No. FAA–2023–0018; Project Identifier AD–2022–00883–R.

## (a) Effective Date

This airworthiness directive (AD) is effective June 29, 2023.

### **(b) Affected ADs**

This AD replaces AD 2022-02-01, Amendment 39-21898 ([87 FR 2316](#), January 14, 2022) (AD 2022-02-01).

### **(c) Applicability**

This AD applies to Sikorsky Aircraft Corporation Model S-92A helicopters, certificated in any category, with a main rotor stationary swashplate assembly (swashplate assembly) part number (P/N) 92104-15011-042 or P/N 92104-15011-043 installed.

### **(d) Subject**

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

### **(e) Unsafe Condition**

This AD was prompted by the discovery of a crack on the swashplate assembly inner ring. The FAA is issuing this AD to detect cracks that could result in fretting wear on the shoulder that supports the clamp-up of the uniball outer race. The unsafe condition, if not addressed, could result in failure of the swashplate assembly and subsequent loss of control of the helicopter.

### **(f) Compliance**

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

### **(g) Definition**

For the purposes of this AD, a “suspected crack” is a nick, scratch, or crack in the paint or primer that includes observable metallic base material.

### **(h) Required Actions**

(1) For helicopters with swashplate assemblies identified in paragraph (c) of this AD that have accumulated 1,600 or more total hours time-in-service on the swashplate assembly, within 50 hours time-in-service (TIS) from February 18, 2022 (the effective date of AD 2022-02-01), and thereafter at intervals not to exceed 50 hours TIS, visually inspect the swashplate assembly for a crack, nick, dent, and scratch, by following the Accomplishment Instructions, Section 3, paragraph B. (except paragraphs B.(2)(a) through (c)) of Sikorsky S-92 Helicopter Alert Service Bulletin ASB 92-62-009, Basic Issue, dated February 6, 2019. If there is a crack, nick, dent, or scratch that exceeds the allowable limits, before further flight, remove the swashplate assembly from service.

(2) For helicopters with swashplate assemblies identified in paragraph (c) of this AD, within 50 hours TIS after the effective date of this AD, and thereafter at intervals not to exceed 50 hours TIS, visually inspect the swashplate assembly for surface discontinuities and suspected cracks by following the Accomplishment Instructions, Section 3., paragraphs B.(1) through (3), of Sikorsky S-92 Helicopter

Alert Service Bulletin ASB 92–62–010, Basic Issue, dated January 26, 2022 (ASB 92–62–010). If there is any surface discontinuity or suspected crack, before further flight, remove the trunnion and accomplish an eddy current inspection (ECI) or fluorescent penetrant inspection (FPI) for a crack by accomplishing the actions in paragraph (h)(2)(i) or (ii) of this AD, as applicable.

(i) Accomplish an ECI by following the Accomplishment Instructions, Section 3, paragraphs C.(1) through (6), but not paragraph C.(6)(c)(1)., of ASB 92–62–010.

(ii) Accomplish an FPI by following the Accomplishment Instructions, Section 3, paragraphs D.(1) through (5), except paragraph D.(4), of ASB 92–62–010.

(3) For helicopters with a swashplate assembly identified in paragraph (c) of this AD certified for operation at a maximum gross weight of 26,500 lbs. that have accumulated 8,600 or more total hours TIS on the swashplate assembly, or certified for operation at a maximum gross weight of 27,700 lbs. that have accumulated 3,300 or more total hours TIS on the swashplate assembly, within 50 hours TIS after the effective date of this AD, and thereafter at intervals not to exceed 50 hours TIS, with the trunnion installed, accomplish an ECI or FPI of the uniball lower bore lip, uniball upper bore, and each trunnion mount bolt hole for a crack by accomplishing the actions in paragraph (h)(3)(i) or (ii) of this AD, as applicable.

(i) Accomplish an ECI by following the Accomplishment Instructions, Section 3, paragraphs C.(2) through (6), but not paragraph C.(6)(c)1., of ASB 92–62–010.

(ii) Accomplish an FPI by following the Accomplishment Instructions, Section 3, paragraphs D.(2), (3), and (5) of ASB 92–62–010.

(4) If there is a crack as a result of any of the inspections required by paragraph (h)(2) or (3) of this AD, before further flight, remove the swashplate assembly from service.

### **(i) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, East Certification Branch, Compliance & Airworthiness Division, 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 certification office, send it to the attention of the person identified in paragraph (j) of this AD.

(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) Related Information**

For more information about this AD, contact Jared Hyman, Aerospace Engineer, Airframe Section, East Certification Branch, FAA, 1701 Columbia Avenue, College Park, GA 30337; phone: (781) 238–7305; email: [9-AVS-AIR-BACO-COS@faa.gov](mailto:9-AVS-AIR-BACO-COS@faa.gov).

### **(k) 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.

(3) The following service information was approved for IBR on June 29, 2023.

(i) Sikorsky S-92 Helicopter Alert Service Bulletin ASB 92-62-010, Basic Issue, dated January 26, 2022.

(ii) [Reserved]

(4) The following service information was approved for IBR on February 18, 2022 ([87 FR 2316](#), January 14, 2022).

(i) Sikorsky S-92 Helicopter Alert Service Bulletin ASB 92-62-009, Basic Issue, dated February 6, 2019.

(ii) [Reserved]

(5) For service information identified in this AD, contact a Sikorsky Field Representative or Sikorsky's Service Engineering Group at Sikorsky Aircraft Corporation, Mailstop K100, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-946-4337 (1-800-Winged-S); email: [wcs\\_cust\\_service\\_eng\\_gr-sik@lmco.com](mailto:wcs_cust_service_eng_gr-sik@lmco.com); website: [sikorsky360.com](http://sikorsky360.com).

(6) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Parkway, Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(7) 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: [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: [www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html).

Issued on May 8, 2023.

Michael Linegang,

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

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