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**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2016-4280; Directorate Identifier 2016-SW-008-AD;**

**Amendment 39-18429; AD 2016-05-11]**

**RIN 2120-AA64**

**Airworthiness Directives; Sikorsky Aircraft Corporation**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule; request for comments.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for Sikorsky Aircraft Corporation (Sikorsky) Model S-92A helicopters. This AD requires certain inspections of the main rotor and tail rotor control pushrods (pushrods). This AD is prompted by a Sikorsky investigation that indicated that some pushrods may have incorrectly installed locking mechanisms. These AD actions are intended to detect an incorrectly installed locking mechanism, which if not corrected, could result in a loose jam nut, failure of the pushrod, loss of main rotor or tail rotor flight control, and consequent loss of helicopter control.

**DATES:** This AD becomes effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain document listed in this AD as of [INSERT DATE 15 days AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

We must receive comments on this AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Docket: Go to <http://www.regulations.gov>. Follow the online instructions for sending your comments electronically.
- Fax: 202-493-2251.
- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.
- Hand Delivery: Deliver to the “Mail” address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-4280; or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, any incorporated by reference service information, the economic evaluation, any comments received, and other information. The street address for the Docket Operations Office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

For service information identified in this final rule, contact Sikorsky Aircraft Corporation, Customer Service Engineering, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S or 203-416-4299; email [sikorskywcs@sikorsky.com](mailto:sikorskywcs@sikorsky.com).

You may review the referenced service information at the FAA, Office of the Regional

Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-4280.

**FOR FURTHER INFORMATION CONTACT:** Blaine Williams, Aerospace Engineer, Boston Aircraft Certification Office, Engine & Propeller Directorate, 1200 District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7161; email [blaine.williams@faa.gov](mailto:blaine.williams@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

This AD is a final rule that involves requirements affecting flight safety, and we did not provide you with notice and an opportunity to provide your comments prior to it becoming effective. However, we invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that resulted from adopting this AD. The most helpful comments reference a specific portion of the AD, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit them only one time. We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this rulemaking during the comment period. We will consider all the comments we receive and may conduct additional rulemaking based on those comments.

## **Discussion**

We propose to adopt a new AD for Sikorsky Model S-92A helicopters with certain main rotor or tail rotor control pushrods installed. After a review of a failed pushrod, Sikorsky investigated the airworthiness of pushrods installed on its helicopters. The investigation indicates that the pushrods installed on Model S-92A helicopters may have incorrect safety cable routing, incorrect jam nut torque, and/or incorrect locking device serrations and key engagement. This AD consequently requires inspecting the pushrods for safety cable routing, engagement of serrations of the locking device, engagement of keys on the locking device, thread engagement, and jam nut torque. This AD requires either repairing or replacing the pushrod assembly, depending on the inspection's outcome. These AD actions are intended to detect and correct an incorrectly installed locking mechanism resulting in a loose jam nut, failure of the pushrods, loss of main rotor or tail rotor flight control, and consequent loss of helicopter control.

## **FAA's Determination**

We are issuing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of these same type designs.

## **Related Service Information Under 1 CFR part 51**

We reviewed Sikorsky S-92 Helicopter Alert Service Bulletin ASB 92-67-006, Revision A, dated February 19, 2016 (ASB), which specifies a one-time inspection of the pushrod assemblies for safety cable routing, engagement of serrations of the locking device, engagement of keys on the locking device, thread engagement, and torque of the jam nuts. The ASB also specifies documenting any non-compliant inspection results and,

if any discrepancies are found during the inspection, removing, reworking, and reinstalling or replacing the pushrod. The ASB specifies performing a rig check as required.

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.

### **AD Requirements**

This AD requires within 5 hours time-in-service (TIS):

- For each pushrod adjustable end, except for the upper deck quadrant pushrod, removing the safety cable and using finger pressure, inspecting each jam nut for movement. If a jam nut moves with finger pressure, removing the pushrod assembly from service.
  - Inspecting to determine whether a 0.02 inch diameter safety wire can pass through the inspection hole. If the safety wire passes through the inspection hole, repairing the pushrod, which is terminating action for that adjustable end.
  - Inspecting for correct engagement of serrations and keys of the locking device. If a locking device is not correctly engaged, repairing the locking device, which is terminating action for that adjustable end.
  - Torqueing each jam nut and installing the safety cable, making sure the right-hand threads have safety cable correctly routed, and the left-hand threads have safety cable correctly routed.

- For the upper deck quadrant pushrod, this AD requires determining whether there is any gap between the jam nut, locking device, and the adjustable end. It also requires:

- If there is a gap, gaining access to the pushrod, removing the safety cable and using finger pressure, inspecting the jam nut for movement. If the jam nut moves with finger pressure, removing the pushrod assembly from service. If the jam nut does not move, performing corrective actions.

- If there is no gap, visually inspecting the adjustable end for correct safety cable routing, correct engagement of serrations and keys of the locking device, and determining whether any thread is visible in the inspection hole. If the safety cable is routed incorrectly, if the locking device is not correctly engaged, or if there is no thread in the inspection hole, gaining access to the pushrod. Using finger pressure, inspecting the jam nut for movement. If the jam nut moves with finger pressure, removing the pushrod assembly from service. If the jam nut does not move with finger pressure, performing corrective actions.

### **Differences between this AD and the Service Information**

Sikorsky specifies compliance by May 16, 2016. We require compliance within 5 hours TIS. We also do not require you to contact Sikorsky or record information on the Pushrod Data Sheet.

### **Costs of Compliance**

We estimate that this AD will affect 80 helicopters of U.S. Registry and labor costs average \$85 per work-hour. Based on these estimates, we expect the following costs:

- Inspecting all pushrod assemblies requires 2 work-hours for a labor cost of \$170. No parts are needed for a total fleet cost of \$13,600.
- Replacing a pushrod requires 2 work-hours for a labor cost \$170. Parts cost an average of \$2,500 for a total cost of \$2,670 per pushrod.
- Repairing a pushrod requires an average 2 work-hours per helicopter for a labor cost of \$170 and minimal part costs.

### **FAA’s Justification and Determination of the Effective Date**

Providing an opportunity for public comments prior to adopting these AD requirements would delay implementing the safety actions needed to correct this known unsafe condition. Therefore, we find that the risk to the flying public justifies waiving notice and comment prior to the adoption of this rule because the required corrective actions must be accomplished within 5 hours TIS.

Since an unsafe condition exists that requires the immediate adoption of this AD, we determined that notice and opportunity for prior public comment before issuing this AD are impracticable and contrary to the public interest and that good cause exists to make this AD effective in less than 30 days.

### **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.

We are 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**

We 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, I certify that this AD:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and
4. 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.

We prepared an economic evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

### **List of Subjects in 14 CFR Part 39**

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

## **Adoption of 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 (AD):

2016-05-11 **Sikorsky Aircraft Corporation (Sikorsky)**: Amendment 39-18429; Docket No. FAA-2016-4280; Directorate Identifier 2016-SW-008-AD.

##### **(a) Applicability**

This AD applies to Sikorsky Model S-92A helicopters, serial numbers 920006 through 920291, with a main rotor or tail rotor servo input pushrod with a part number (P/N) listed in Table 1 to paragraph (a) of this AD, certificated in any category.

Name	P/N	Torque Value
Yaw Boost Input Pushrod	92400-04801-108	60-100 inch pounds
Pitch Boost Input Pushrod	92400-04801-107	43 inch pounds
Collective Boost Input Pushrod	92400-04801-107	350 inch pounds
Roll Boost Input Pushrod	92400-04801-109	43 inch pounds
Yaw Boost Out Pushrod	92400-04802-109	40-46 inch pounds
Roll Boost Out Pushrod	92400-04803-103	40-46 inch pounds
Pitch Boost Out Pushrod	92400-04803-102	40-46 inch pounds
Collective Boost Out Pushrod	92400-04802-108	40-46 inch pounds
Limiter Pushrod	92400-04803-106	40-46 inch pounds
Pitch to Roll Pushrod	92400-04803-107	40-46 inch pounds
Left Hand Main Rotor Servo Pushrod	92400-04801-110	350 inch pounds
Forward Main Rotor Servo Pushrod	92400-04801-111	350 inch pounds
Right Hand Main Rotor Servo Pushrod	92400-04801-112	350 inch pounds
Upper Deck Quadrant Pushrod	92400-04802-105	60-100 inch pounds
Tail Rotor Servo Input Pushrod	92400-04802-107	40-46 inch pounds

Table 1 to paragraph (a)

**(b) Unsafe Condition**

This AD defines the unsafe condition as an incorrectly installed locking mechanism resulting in a loose jam nut. This condition, if not detected and corrected, could result in failure of the main rotor or tail rotor control pushrod, loss of main rotor or tail rotor flight control and consequent loss of helicopter control.

**(c) Effective Date**

This AD becomes effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(d) Compliance**

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

**(e) Required Actions**

Within 5 hours time-in-service:

(1) For each control input pushrod (pushrod) adjustable end, except for the upper deck quadrant pushrod:

(i) Remove the safety cable and using finger pressure, inspect each jam nut for movement. If a jam nut moves with finger pressure, remove the pushrod assembly from service.

(ii) Inspect to determine whether a 0.02 inch diameter safety wire can pass through the inspection hole. If the safety wire passes through the inspection hole, repair the pushrod in accordance with the Accomplishment Instructions, paragraphs C.(2)(b) through C.(2)(l) of Sikorsky S-92 Helicopter Alert Service Bulletin ASB 92-67-006,

Revision A, dated February 19, 2016 (ASB), which is terminating action for that adjustable end.

(iii) Where locking devices are used, inspect for correct engagement of serrations and keys of the locking device as shown in Figure 4 of the ASB. If a locking device is not correctly engaged, repair the locking device in accordance with the Accomplishment Instructions, paragraphs C.(3)(c) through C.(3)(f) of the ASB, which is terminating action for that adjustable end.

(iv) Torque each jam nut using the torque values listed in Table 1 to paragraph (a) of this AD. Install the safety cable, making sure the right-hand threads have safety cable routed as shown in Figure 2 of the ASB, and the left-hand threads have safety cable routed as shown in Figure 3 of the ASB.

(2) For the upper deck quadrant pushrod, determine whether there is any gap between the jam nut, locking device, and adjustable end.

(i) If there is a gap, gain access to the pushrod, remove the safety cable, and using finger pressure, inspect the jam nut for movement. If the jam nut moves with finger pressure, remove the pushrod assembly from service. If the jam nut does not move, perform the actions in paragraphs (e)(1)(ii) through (e)(1)(iv) of this AD.

(ii) If there is no gap, visually inspect the adjustable end for correct safety cable routing as shown in Figure 2 of the ASB, correct engagement of serrations and keys of the locking device as shown in Figure 4 of the ASB, and to determine whether any thread is visible in the inspection hole. If the safety cable is routed incorrectly, if the locking device is not correctly engaged, or if there is no thread in the inspection hole, gain access to the pushrod. Using finger pressure, inspect the jam nut for movement. If the jam nut

moves with finger pressure, remove the pushrod assembly from service. If the jam nut does not move with finger pressure, perform the actions in paragraphs (e)(1)(ii) through (e)(1)(iv) of this AD.

**(f) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Boston Aircraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to: Blaine Williams, Aerospace Engineer, Boston Aircraft Certification Office, Engine & Propeller Directorate, 1200 District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7161; email [blaine.williams@faa.gov](mailto:blaine.williams@faa.gov).

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office before operating any aircraft complying with this AD through an AMOC.

**(g) Subject**

Joint Aircraft Service Component (JASC) Code: 6700, Rotorcraft Flight Control.

**(h) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference 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 S-92 Helicopter Alert Service Bulletin ASB 92-67-006, Revision A, dated February 19, 2016.

(ii) Reserved.

(3) For Sikorsky service information identified in this final rule, contact Sikorsky Aircraft Corporation, Customer Service Engineering, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S or 203-416-4299; email sikorskywcs@sikorsky.com.

(4) You may view this service information at 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, call (202) 741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Fort Worth, Texas, on March 2, 2016.

Scott A. Horn,

Acting Manager, Rotorcraft Directorate,  
Aircraft Certification Service.

[FR Doc. 2016-05258 Filed: 3/10/2016 8:45 am; Publication Date: 3/11/2016]