



**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2017-0664; Directorate Identifier 2016-SW-073-AD;**

**Amendment 39-18947; AD 2017-14-03]**

**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 an inspection and reduces the retirement lives of certain landing gear components. This AD is prompted by a revised analysis of the fatigue life of the landing gear. The actions of this AD are intended to prevent an unsafe condition on these products.

**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-2017-0664; 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: [wcs\\_cust\\_service\\_eng.gr-sik@lmco.com](mailto:wcs_cust_service_eng.gr-sik@lmco.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-2017-0664.

**FOR FURTHER INFORMATION CONTACT:** Dorie Resnik, Aviation Safety Engineer, Boston Aircraft Certification Office, Engine & Propeller Directorate, 1200 District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7693; email [dorie.resnik@faa.gov](mailto:dorie.resnik@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 are adopting a new AD for Sikorsky Model S-92A helicopters. This AD is prompted by Sikorsky's updated fatigue analysis of the nose and main landing gear as part of a supplier transition project. The updated fatigue analysis revealed that certain

components -- main landing gear (MLG) wheel axle part number (P/N) 2392-2334-001, MLG and nose landing gear (NLG) threaded hinge pin P/N 2392-2311-003, NLG cylinder P/N 2392-4006-005, NLG hinge pin P/N 2392-4312-003, and landing gear actuator rod end P/N 2392-0876-901 -- require a reduced service life. Sikorsky updated the airworthiness limitations schedule accordingly and developed a recurring visual and ultrasonic inspection of NLG airframe fitting assembly P/N 92209-01101-041 once it has accumulated 31,600 landing cycles.

Accordingly, this AD requires inspecting and reducing the life limits of these landing gear components. The actions specified by this AD are intended to detect and prevent cracks or failure of any landing gear component, which could result in damage and loss of control of the helicopter.

#### **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 this same type design.

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

We reviewed Ultrasonic Inspection Technique No. UT 5077, Revision 0, dated July 25, 2014 (UT 5077). UT 5077 contains the inspection method, equipment and materials, calibration, and inspection procedure for performing an ultrasonic inspection of nose gear actuator fitting P/N 92209-01101-101.

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.

## **Other Related Service Information**

We also reviewed Sikorsky S-92 Helicopter Alert Service Bulletin 92-32-004, Basic Issue, dated January 30, 2015 (ASB). The ASB describes procedures for conducting a visual inspection of the NLG airframe fitting assembly and an ultrasonic inspection by following the procedures in UT 5077.

## **AD Requirements**

This AD requires removing the following components from service:

- Any MLG wheel axle P/N 2392-2334-001 that has 22,300 or more landing cycles.
- Any MLG or NLG threaded hinge pin P/N 2392-2311-003 that has 26,100 or more landing cycles.
- Any NLG cylinder P/N 2392-4006-005 that has 26,300 or more landing cycles.
- Any NLG hinge pin P/N 2392-4312-003 that has 26,700 or more landing cycles.
- Any landing gear actuator rod end P/N 2392-0876-901 that has 41,700 or more landing cycles.

For helicopters that have 31,600 or more landing cycles and an NLG airframe fitting assembly P/N 92209-01101-041 installed, this AD also requires:

- Using a 10X or higher power magnifying glass, inspecting each bushing and all visible surfaces of mating lug fittings adjacent to each bushing for fretting, corrosion, wear, and scratches.
- Replacing the NLG airframe fitting assembly before further flight if there is fretting, corrosion, wear, or a scratch more than 0.0005 inch deep.
- Ultrasonic inspecting the NLG actuator fitting and replacing the NLG actuator fitting before further flight if there are any anomalies.

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

The ASB requires a repetitive inspection of the NLG airframe fitting assemblies P/N 92209-01101-041 every 1,986 landing cycles; this AD does not.

## **Interim Action**

We consider this AD to be an interim action. We are currently considering requiring a repetitive inspection of the NLG airframe fitting assemblies P/N 92209-01101-041 that would occur every 1,986 landing cycles. However, the planned compliance time for the inspections would allow enough time to provide notice and opportunity for prior public comment on the merits of the repetitive inspections.

## **Costs of Compliance**

We estimate that this AD will affect 80 helicopters of U.S. Registry.

We estimate that operators may incur the following costs in order to comply with this AD. At an average labor rate of \$85 per hour:

- Replacing a wheel axle P/N 2392-2334-001 will require 2 work-hours and required parts cost \$22,000, for a cost per helicopter of \$22,170.
- Replacing a MLG or NLG threaded hinge pin P/N 2392-2311-003 will require 1 work-hour and required parts cost \$3,800, for a cost per helicopter of \$3,885.
- Replacing a NLG cylinder P/N 2392-4006-005 will require 1 work-hour and required parts cost \$27,200, for a cost per helicopter of \$27,285.
- Replacing a NLG hinge pin P/N 2392-4312-003 will require 1 work-hour and required parts cost \$4,400, for a cost per helicopter of \$4,485.
- Replacing a landing gear actuator rod end P/N 2392-0876-901 will require 1 work-hour and required parts cost \$900, for a cost per helicopter of \$985.

- Inspecting the NLG airframe fitting assembly P/N 92209-01101-041 will require 8 work-hours, and required parts cost is minimal, for a cost of \$680 per helicopter and \$54,400 for the U.S. fleet.
- If required, replacing a NLG actuator fitting P/N 92209-01101-101 would require 70 work-hours, and required parts cost \$10,000, for a cost per helicopter of \$15,950.

### **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 replacing the landing gear components affected by the life-limit reductions required by this AD must be accomplished before further flight.

Since an unsafe condition exists that requires the immediate adoption of this AD, we determined that notice and opportunity for public comment before issuing this AD are impracticable and that good cause exists for making this amendment 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):

2017-14-03 **Sikorsky Aircraft Corporation (Sikorsky)**: Amendment 39-18947; Docket No. FAA-2017-0664; Directorate Identifier 2016-SW-073-AD.

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

This AD applies to Sikorsky Model S-92A helicopters, certificated in any category.

##### **(b) Unsafe Condition**

This AD defines the unsafe condition as fatigue failure of the landing gear. This condition could result in failure of the landing gear and subsequent damage to and loss of control of the helicopter.

##### **(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**

(1) Before further flight, remove from service any part that has accumulated the number of landing cycles listed in Table 1 to paragraph (e)(1) of this AD. Thereafter, remove from service any part before accumulating the number of landing cycles listed in Table 1 to paragraph (e)(1) of this AD. For purposes of this AD, a landing cycle is counted anytime the helicopter lifts off into the air and then lands again regardless of the duration of the landing and regardless of whether the engine is shut down. If the number of landing cycles is unknown, multiply the number of hours time-in-service by 4.5 to determine the number of landing cycles.

<b>Part Name</b>	<b>Part Number</b>	<b>Life Limit</b>
Main landing gear (MLG) wheel axle	2392-2334-001	22,300 landing cycles
MLG or nose landing gear (NLG) threaded hinge pin	2392-2311-003	26,100 landing cycles
NLG cylinder	2392-4006-005	26,300 landing cycles
NLG hinge pin	2392-4312-003	26,700 landing cycles
Landing gear actuator rod end	2392-0876-901	41,700 landing cycles

Table 1 to Paragraph (e)(1) of this AD

(2) For helicopters with 31,600 or more landing cycles and an NLG airframe fitting assembly P/N 92209-01101-041 installed, before further flight:

(i) Using a 10X or higher power magnifying glass, inspect each bushing (P/N 92209-01101-102 and P/N 92209-01101-103) and all visible surfaces of mating lug

fittings adjacent to each bushing for fretting, corrosion, wear, and scratches. If there is fretting, corrosion, wear, or a scratch more than 0.0005 inch deep, replace the NLG airframe fitting assembly before further flight.

(ii) Ultrasonic inspect each NLG actuator fitting P/N 92209-01101-101 in accordance with Sikorsky Ultrasonic Inspection Technique No. UT 5077, Revision 0, dated July 25, 2014 (UT 5077), except you are not required to report to or contact Sikorsky. If there are any anomalies or suspect indications, replace the NLG actuator fitting before further flight.

Note 1 to paragraph (e)(2)(ii) of this AD: A copy of UT 5077 is attached to Sikorsky S-92 Helicopter Alert Service Bulletin 92-32-004, Basic Issue, dated January 30, 2015.

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

(1) The Manager, Boston Aircraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to: Dorie Resnik, Aviation Safety Engineer, Boston Aircraft Certification Office, Engine & Propeller Directorate, 1200 District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7693; email [dorie.resnik@faa.gov](mailto:dorie.resnik@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) Additional Information**

Sikorsky S-92 Helicopter Alert Service Bulletin 92-32-004, Basic Issue, dated January 30, 2015, which is not incorporated by reference, contains additional information about the subject of this AD. For service information identified in this AD, contact Sikorsky Aircraft Corporation, Customer Service Engineering, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S or 203-416-4299; email: wcs\_cust\_service\_eng.gr-sik@lmco.com. You may review this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177.

**(h) Subject**

Joint Aircraft Service Component (JASC) Code: 3200 Main Landing Gear and 3220 Nose Landing Gear.

**(i) 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) Ultrasonic Inspection Technique No. UT 5077, Revision 0, dated July 25, 2014.

Note 2 to paragraph (i)(2)(i): Ultrasonic Inspection Technique No. UT 5077, Revision 0, dated July 25, 2014, is an attachment to Sikorsky S-92 Helicopter Alert

Service Bulletin 92-32-004, Basic Issue, dated January 30, 2015, which is not incorporated by reference.

(ii) Reserved.

(3) For Sikorsky service information identified in this AD, contact Sikorsky Aircraft Corporation, Customer Service Engineering, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S or 203-416-4299; email: wcs\_cust\_service\_eng.gr-sik@lmco.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 June 27, 2017.

Scott A. Horn,

Acting Manager, Rotorcraft Directorate,  
Aircraft Certification Service.

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