



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-8501; Directorate Identifier 2014-SW-042-AD]

RIN 2120-AA64

Airworthiness Directives; Sikorsky Aircraft Corporation Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for Sikorsky Aircraft Corporation (Sikorsky) Model S-92A helicopters. This proposed AD would require inspecting the main transmission forward (fwd) and aft frame assembly and adjacent skins for a crack and loose fasteners and establishing life limits for certain frame assemblies. This proposed AD is prompted by fatigue analysis indicating stress concentrations as well as the discovery of a crack in the station (STA) 362 frame and skin on a Model S-92A helicopter. The proposed actions are intended to detect a crack in a frame assembly and prevent failure of a frame and subsequent loss of control of the helicopter.

DATES: We must receive comments on this proposed 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-2016-8501; 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 proposed AD, 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 proposed AD, 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. 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, Texas 76177.

FOR FURTHER INFORMATION CONTACT: Kristopher Greer, Aviation Safety Engineer, Boston Aircraft Certification Office, Engine & Propeller Directorate, 1200

District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7799; email Kristopher.Greer@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

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 might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, 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 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 proposed rulemaking. Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

Discussion

We propose to adopt a new AD for Sikorsky Model S-92A helicopters with certain part-numbered frame assemblies installed. This proposed AD is prompted by a fatigue analysis that indicates stress concentrations may develop at the steel doublers on the main transmission airframe support structure top deck, adjacent to the transmission

feet. Additionally, a helicopter was discovered with a crack in the STA 362 frame and skin. This proposed AD would require inspecting the main transmission fwd and aft frame assemblies and adjacent skins for a crack and loose fasteners and replacing or repairing any cracked part or loose fastener. This proposed AD would also require establishing life limits for certain frame assemblies. The proposed actions are intended to detect a crack in the frame assemblies and to prevent failure of the main transmission frame assemblies and subsequent loss of control of the helicopter.

FAA's Determination

We are proposing this AD because we evaluated all known relevant information and determined that an unsafe condition exists and is likely to exist or develop on other helicopters of the same type design.

Related Service Information

Sikorsky issued S-92 Alert Service Bulletin (ASB) 92-53-008, Basic Issue, dated June 13, 2012 (ASB 92-53-008); S-92 ASB 92-53-009, Basic Issue, dated December 6, 2012 (ASB 92-53-009); and S-92 ASB 92-53-012, Basic Issue, dated February 10, 2014 (ASB 92-53-012). ASB 92-53-008 provides procedures for a one-time inspection of the main transmission frames and beams for a crack, missing or loose fastener or collar, damage, deformation, and corrosion. ASB 92-53-009 specifies an inspection before the first flight of the day and a recurring 150-hour inspection of the interior and exterior surfaces of the upper flanges and beams. ASB 92-53-012 specifies altering the fwd and aft transmission support frames by replacing the fasteners in accordance with Sikorsky Special Service Instructions No. 92-074-E, Revision E, dated April 9, 2014. After this

alteration, the parts are re-identified with a new part number. Sikorsky refers to this alteration as a service life extension program modification.

Proposed AD Requirements

This proposed AD would establish a life limit for certain part-numbered frame assemblies by removing from service any part that has reached or exceeded its new life limit. Frame assemblies that are altered under Sikorsky's service life extension program and re-identified with a new part number must be removed from service upon accumulating the life limit of the old part-number or within certain hours TIS since the alteration, whichever occurs first.

This proposed AD would also require, for helicopters with certain part-numbered frame assemblies, within 24 clock-hours and thereafter before the first flight of each day or at intervals not to exceed 24 clock-hours, whichever occurs later, inspecting the top deck skin, straps, and fasteners for a crack and loose fasteners in two locations. If there is a loose fastener or a crack, this proposed AD would require repairing or replacing the cracked or loose part and performing additional inspections of the STA 328 frame, STA 362 frame, and the butt line (BL) 16.5 beams.

Finally, this proposed AD would require repetitively inspecting the STA 328 frame, STA 362 frame, and the BL 16.5 beams once the frame assembly exceeds certain hours TIS.

Differences Between This Proposed AD and the Service Information

The service information requires providing certain information to Sikorsky and this proposed AD would not. The service information specifies performing a fluorescent penetrant inspection if there is a suspected crack and contacting Sikorsky if there is a

crack, while this proposed AD would only require repairing or replacing any cracked part. Contacting Sikorsky would not be required.

Costs of Compliance

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

We estimate that operators may incur the following costs to comply with this AD. Labor costs are estimated at \$85 per work-hour. We estimate a minimal cost to establish and revise the life limit of the frame assembly. We estimate it would take 1 work-hour to visually inspect the skin and 1 work-hour to inspect STA 328 and 362 frames. No parts would be needed for a total cost of \$6,800 for the fleet for each inspection per inspection cycle. If a fastener is replaced, we estimate the cost to be minimal. If a frame is replaced, it would take 3,360 work-hours and a required parts cost of \$296,000 for a total cost of \$581,600 per helicopter.

Regulatory Findings

We 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, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the 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 proposed 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.

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 (AD):

Sikorsky Aircraft Corporation: Docket No. FAA-2016-8501; Directorate Identifier 2014-SW-042-AD.

(a) Applicability

This AD applies to Model S-92A helicopters, certificated in any category, with a forward (fwd) station (STA) 328 or aft STA 362 frame assembly with a part

number (P/N) as shown in Table 1 to paragraph (e)(1), Table 2 to paragraph (e)(1), Table 3 to paragraph (e)(2), or Table 4 to paragraph (e)(3) of this AD.

(b) Unsafe Condition

This AD defines the unsafe condition as a crack in a main transmission airframe support structure. This condition could result in failure of a main transmission frame and subsequent loss of control of the helicopter.

(c) Comments Due Date

We must receive comments by [INSERT DATE 60 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) For helicopters with a frame assembly with a P/N shown in Table 1 to paragraph (e)(1) or Table 2 to paragraph (e)(1) of this AD, before further flight, remove from service any part that has reached or exceeded its new life limit. Fwd STA 328 frame assemblies that are altered and changed to P/N 92070-20124-064, 92070-20124-067, 92070-20127-045, 92070-20124-065, 92070-20124-047, or 92070-20127-046 must be removed from service upon accumulating 12,000 hours TIS from the alteration or 28,500 hours TIS total (regardless of P/N), whichever occurs first.

Fwd STA 328 Frame Assembly P/N	Life Limit Hours TIS
92070-20124-064	12,000
92070-20124-067	12,000
92070-20127-045	12,000
92070-20124-065	12,000

92070-20124-047	12,000
92070-20127-046	12,000
92070-20124-063	12,000
92070-20124-066	12,000
92070-20127-041	12,000

Aft STA 362 Frame Assembly P/N	Life Limit Hours TIS
92070-20124-041	10,400
92070-20124-044	10,400
92070-20127-042	10,400
92070-20124-042	10,400
92070-20124-045	10,400
92070-20127-049	10,400
92070-20124-043	10,400
92070-20124-046	10,400
92070-20127-050	10,400
92070-20141-050	17,000
92070-20141-051	17,000
92070-20141-052	17,000

Table 1 to Paragraph (e)(1)

Fwd STA 328 Frame Assembly P/N	Life Limit Hours TIS
92070-20097-058	28,500
92080-20047-047	28,500
92070-20097-060	28,500
92080-20047-048	28,500

Table 2 to Paragraph (e)(1)

(2) For helicopters with a frame assembly with a P/N shown in Table 1 to paragraph (e)(1), Table 2 to paragraph (e)(1), or Table 3 to paragraph (e)(2) of this AD: within 24 clock-hours, and thereafter before the first flight of each day or at intervals not to exceed 24 clock-hours, whichever occurs later, using a 10X or higher power magnifying glass, inspect the skin, straps, and fasteners of the top deck for a crack and loose fasteners in two locations from the STA 328 frame to the STA 305 frame between the right butt line (BL) 16.5 beam and the left BL 16.5 beam, and from the STA 362

frame to the STA 379 frame between the right BL 16.5 beam and the left BL 16.5 beam.

If there is a loose fastener or a crack:

(i) Repair or replace any cracked part and any loose fastener before further flight.

(ii) Inspect the STA 328 frame and STA 362 frame between the left and right BL16.5 beams and inspect the area on the left and right BL 16.5 beams six inches on either side of the mounting pads for a crack and loose fasteners. If there is a loose fastener or a crack, repair or replace any cracked part and any loose fastener before further flight.

(iii) Inspect the STA 328 and STA 362 outboard frames, left and right sides, from the BL 16.5 beam to water line 252.25 for a crack and loose fasteners. If there is a loose fastener or a crack, repair or replace any cracked part and any loose fastener before further flight.

Fwd STA 328 Frame Assembly P/N	Aft STA 362 Frame Assembly P/N
92209-02106-042	92070-20097-062
92209-02106-043	92080-20047-051
92070-20097-041	92209-02109-043
92080-20047-041	92209-02109-044
	92070-20097-042
	92080-20047-042
	92070-20097-064
	92080-20047-052

Table 3 to Paragraph (e)(2)

(3) For each frame assembly listed in Table 1 to paragraph (e)(1) or Table 4 to paragraph (e)(3) of this AD with 1,801 or more hours TIS, and for each frame assembly listed in Table 2 to paragraph (e)(1) or Table 3 to paragraph (e)(2) of this AD with 1,301 or more hours TIS, within 150 hours TIS and thereafter at intervals not to exceed 150 hours TIS, perform the inspections in paragraphs (e)(2)(ii) and (e)(2)(iii) of this AD.

Fwd STA 328 Frame Assembly P/N	Aft STA 362 Frame Assembly P/N
92209-02107-042	92070-02108-042
92209-02107-103	92080-02108-103

Table 4 to Paragraph (e)(3)

(f) Alternative Methods of Compliance (AMOC)

(1) The Manager, Boston Aircraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to: Kristopher Greer, Aviation Safety Engineer, Engine & Propeller Directorate, 1200 District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7799; email Kristopher.Greer@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 Alert Service Bulletin (ASB) 92-53-008, Basic Issue, dated June 13, 2012; ASB 92-53-009, Basic Issue, dated December 6, 2012; ASB 92-53-012, Basic Issue, dated February 10, 2014, and Sikorsky Special Service Instructions No. 92-074-E, Revision E, dated April 9, 2014, which are not incorporated by reference, contain 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 sikorskywcs@sikorsky.com.

You may review a copy of information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, Texas 76177.

(h) Subject

Joint Aircraft Service Component (JASC) Code: 5311 Fuselage Main, Frame.

Issued in Fort Worth, Texas, on July 7, 2016.

Scott A. Horn,

Acting Manager, Rotorcraft Directorate,
Aircraft Certification Service.

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