



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2019-1053; Product Identifier 2018-SW-037-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Robinson Helicopter Company Helicopters**

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

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to adopt a new airworthiness directive (AD) for Robinson Helicopter Company Model R44 and R44 II helicopters with an agricultural spray system installed by Supplemental Type Certificate (STC) SR00286BO (spray system). This spray system is also known as a Simplex Manufacturing Company (Simplex) Model 244 spray system. This proposed AD was prompted by a report of an in-flight failure of the spray system elbow pump fitting (pump fitting). This proposed AD would require repetitive inspections of the spray system pump fitting, corrective action if necessary, replacement of the spray system pump fitting, and installation of hose supports and a pump outlet cover. The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Simplex Manufacturing Company, 13340 NE Whitaker Way, Portland, OR 97230; phone 503-257-3511; fax 503-257-8556; Internet [www.simplex.aero](http://www.simplex.aero). You may view this service information at the 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.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-1053; 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 NPRM, the regulatory evaluation, any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Chris Bonar, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3521; email: Christopher.Bonar@faa.gov.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2019-1053; Product Identifier 2018-SW-037-AD” at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. The FAA will consider all comments received by the closing date and may amend this NPRM because of those comments.

The FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this NPRM.

**Discussion**

The FAA proposes to adopt a new AD for Robinson Helicopter Company Model R44 and R44 II helicopters with an agricultural spray system installed by STC SR00286BO with spray systems serial-numbered 0045 through 0178 inclusive. STC SR00286BO approves the installation of a Simplex spray system. This proposed AD would require a repetitive inspection until the pump fitting is modified.

This proposed AD is prompted by a report of an in-flight failure of the spray system pump fitting. Following the issuance of a Simplex service letter, five additional reports of failed fittings were received. Failure of the pump fitting causes uncontrolled discharge of the spray liquid exiting the system pump. The pump output port is in direct alignment with the engine air intake, allowing the engine to ingest the spray liquid. This condition, if not addressed, could result in an in-flight engine shutdown.

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

The FAA reviewed the following service information:

- Simplex Mfg Alert Service Bulletin ASB2017-001, Initial Release, dated March 28, 2017. This service information describes procedures for inspecting the spray system pump fitting to detect damage, including signs of stress, cracking, fatigue, and evidence of leaking.

- Simplex Mfg Service Letter SL2017-017, Revision B, dated March 14, 2018. This service information describes procedures for replacing the spray system pump fitting with an improved pump fitting and installing hose supports.

- Simplex Mfg Service Letter SL2017-030, Initial Release, dated March 12, 2018. This service information describes procedures for installing a pump outlet cover.

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**

The FAA reviewed Simplex Mfg, Installation Manual, Simplex Manufacturing Co. HPR44 III Spray System for the Robinson R44 Series Helicopter, Installation Manual

PM001-HPR44III-25-008, Revision 7, dated May 2, 2017. This service information specifies unpacking, installation, and system function test procedures.

The FAA also reviewed Simplex Mfg, Instructions for Continued Airworthiness (ICA), Simplex Manufacturing Co. HPR44 III Spray System for the Robinson R44 Series Helicopter, PM011-HPR44III-25-007 ICA, Revision 9, dated April 20, 2018. This service information specifies general, airworthiness limitation, inspection and maintenance, dimension and access, lifting and shoring, leveling and weighing, towing and taxiing, storing, placard and marking, servicing and lubricating, standard practice, and equipment and furnishing information.

#### **FAA's Determination**

The FAA is proposing this AD after evaluating all the relevant information and determining that the unsafe condition described previously is likely to exist or develop in other products of the same type design.

#### **Proposed AD Requirements**

This proposed AD would require, before each flight, visually inspecting the spray system pump fitting for signs of stress, cracking, fatigue, and evidence of leaking. If there is any sign of stress, cracking, fatigue, or evidence of leaking, this proposed AD would require replacing pump fitting P/N P-58-0752-40 with pump fitting P/N 000-123847-000, and installing cushion clamp P/N 000-115571-000, cable tie hose supports, and pump outlet cover P/N 244-302056-001 before further flight. If there is no sign of stress, cracking, fatigue, or evidence of leaking, this proposed AD would require replacing the pump fitting with fitting P/N 000-123847-000, and installing cushion clamp P/N 000-115571-000, cable tie hose supports, and pump outlet cover P/N 244-302056-001 within

3 months. This proposed AD would also require pressurizing and inspecting the spray system with fitting P/N 000- 123847- 000, the cushion clamp, the cable tie hose supports, and the pump outlet cover installed, and depending on the outcome of this inspection, replacing the parts and repeating the inspection again.

### **Differences Between this Proposed AD and the Service Information**

The Simplex Mfg alert service bulletin and service letter service information identify the spray system as the R44III spray system. The Simplex Mfg installation manual and ICA service information identify the spray system as the HPR44 III spray system. However, this proposed AD identifies this modification as an agricultural spray system installed by STC SR00286BO and acknowledges the marketing designation of Simplex Model 244 spray system. The Simplex Mfg alert service bulletin service information specifies contacting Simplex if there is evidence of damage. This proposed AD would instead require replacing the spray system pump fitting, and installing a cushion clamp, cable tie hose supports, and a pump outlet cover if there is any sign of stress, cracking, fatigue, or evidence of leaking.

### **Costs of Compliance**

The FAA estimates that this proposed AD affects 75 helicopters of U.S. registry. Labor costs are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this proposed AD.

Inspecting the fitting would take about 0.1 work-hour for an estimated cost of \$9 per helicopter and \$675 for the U.S. fleet per inspection cycle. Replacing the fitting and installing the cushion clamp and hose supports would take about 1 work-hour with a nominal parts costs for an estimated cost of \$85 per helicopter and \$6,375 for the U.S.

fleet. Installing the pump outlet cover would take about 1 work-hour and parts would cost about \$300 for an estimated cost of \$385 per helicopter and \$28,875 for the U.S. fleet.

According to the manufacturer, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected individuals. The FAA does not control warranty coverage for affected individuals. As a result, all costs are included in this cost estimate.

### **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 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 above, I certify this proposed regulation:

(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 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):

**Robinson Helicopter Company:** Docket No. FAA-2019-1053; Product Identifier

2018-SW-037-AD.

**(a) Comments Due Date**

The FAA must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Robinson Helicopter Company Model R44 and R44 II helicopters, certificated in any category, with an agricultural spray system installed by Supplemental Type Certificate (STC) SR00286BO with spray systems serial-numbered 0045 through 0178 inclusive, installed.

Note 1 to paragraph (c) of this AD: STC SR00286BO approves the installation of Simplex Manufacturing Company Model 244 spray system (spray system). Earlier models of this system have a metal flanged fitting that is not affected by this AD.

**(d) Subject**

Joint Aircraft Service Component (JASC) Code: 2551, Agricultural Spray System.

**(e) Unsafe Condition**

This AD was prompted by a report of an in-flight failure of the spray system elbow pump fitting (pump fitting). The FAA is issuing this AD to prevent failure of the pump fitting, which could result in an in-flight engine shutdown.

**(f) Compliance**

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

**(g) Required Actions**

(1) Before further flight, and thereafter before each flight, visually inspect the spray system pump fitting for signs of stress, cracking, fatigue, and evidence of leaking by following the Accomplishment Instructions, paragraphs 1. through 4., of Simplex Mfg

Alert Service Bulletin ASB2017-001, Initial Release, dated March 28, 2017

(ASB2017-001). If there is any sign of stress, cracking, fatigue, or evidence of leaking, before further flight, accomplish paragraph (g)(2) of this AD.

(2) Within 3 months, unless required before further flight by paragraph (g)(1) of this AD:

(i) Replace spray system pump fitting P/N P-58-0752-40 with fitting P/N 000-123847-000 and install cushion clamp P/N 000-115571-000 and cable tie hose supports by following the Accomplishment Instructions, paragraphs 1. through 6., of Simplex Mfg Service Letter SL2017-017, Revision B, dated March 14, 2018.

(ii) Install pump outlet cover P/N 244-302056-001 by following the Accomplishments Instructions, paragraphs 1. through 7., of Simplex Mfg Service Letter SL2017-030, Initial Release, dated March 12, 2018 (SL2017-030), except refer to Figure 2 when instructed to refer to Figure 1.

Note 2 to paragraph (g)(2)(ii) of this AD: SL2017-030 includes instructions that refer to a Figure 1; however, there is no Figure 1.

(iii) Pressurize the system and determine if the new fitting is functioning correctly by visually inspecting the spray system pump fitting for signs of stress, cracking, fatigue, and evidence of leaking by following the Accomplishment Instructions, paragraphs 1. through 4. of ASB2017-001. If there is any sign of stress, cracking, fatigue, or evidence of leaking, before further flight, remove from service the fitting, cushion clamp, cable tie hose supports, and pump outlet cover and replace with a new fitting, new cushion clamp, new cable tie hose supports, and new pump outlet cover, and repeat the actions required by this paragraph.

(3) After the effective date of this AD, do not install a Simplex Model 244 spray system approved under STC SR00286BO with pump fitting P/N P-58-0752-40 on any Robinson Helicopter Company Model R44 or R44 II helicopter.

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

(1) The Manager, Seattle ACO 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 certification office, send it to the attention of the person identified in paragraph (i)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@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.

**(i) Related Information**

(1) For more information about this AD, contact Chris Bonar, Aerospace Engineer, Airframe Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3521; email: Christopher.Bonar@faa.gov.

(2) For service information identified in this AD, contact Simplex Manufacturing Company, 13340 NE Whitaker Way, Portland, OR 97230; phone 503-257-3511; fax 503-257-8556; Internet [www.simplex.aero](http://www.simplex.aero). You may view this service information at the 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.

Issued in Fort Worth, Texas, on December 11, 2019.

Gaetano A. Sciortino,

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

[FR Doc. 2019-27117 Filed: 12/16/2019 8:45 am; Publication Date: 12/17/2019]