

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2016-0733; Directorate Identifier 2015-SW-040-AD; Amendment 39-18762; AD 2016-26-04]**

**RIN 2120-AA64**

**Airworthiness Directives; Robinson Helicopter Company Helicopters**

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

**ACTION:** Final rule.

---

**SUMMARY:** We are adopting a new airworthiness directive (AD) for Robinson Helicopter Company (Robinson) Model R44, R44 II, and R66 helicopters. This AD requires inspecting the main rotor blade (MRB). This AD was prompted by a determination that some MRBs may have reduced blade thickness due to blending out corrosion. The actions are intended to prevent the unsafe condition on these products.

**DATES:** This AD is effective February 8, 2017.

The Director of the Federal Register approved the incorporation by reference of certain documents listed in this AD as of February 8, 2017.

**ADDRESSES:** For service information identified in this final rule, contact Robinson Helicopter Company, 2901 Airport Drive, Torrance, CA 90505; telephone (310) 539-0508; fax (310) 539-5198; or at <http://www.robinsonheli.com>. You may review a copy of 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-2016-0733.

**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-2016-0733; 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 (phone: 800-647-5527) is

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

**FOR FURTHER INFORMATION CONTACT:** Eric Schrieber, Aviation Safety Engineer, Los Angeles Aircraft Certification Office, Transport Airplane Directorate, FAA, 3960 Paramount Blvd., Lakewood, California 90712; telephone (562) 627-5348; email [eric.schrieber@faa.gov](mailto:eric.schrieber@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Discussion**

On May 27, 2016, at 81 FR 33609, the Federal Register published our notice of proposed rulemaking (NPRM), which proposed to amend 14 CFR part 39 by adding an AD that would apply to Robinson Model R44 and R44 II helicopters with an MRB part number (P/N) C016-7, Revision N/C, A through Z, and AA through AE; and Model R66 helicopters with an MRB P/N F016-2, Revision A through E. The NPRM proposed to require a one-time visual inspection of the MRB for a crack, corrosion, dent, nick, and scratch and either altering the MRB or removing it from service.

The NPRM was prompted by a report of a fatigue crack on a Model R44 II helicopter at the MRB trailing edge that had grown to reach the blade spar. The FAA subsequently determined that some MRBs may have reduced blade fatigue resistance due to repair by blending out corrosion in the area of the crack site radius. The proposed requirements were intended to prevent an MRB fatigue crack, which could lead to MRB failure and subsequent loss of helicopter control.

**Comments**

After our NPRM (81 FR 33609, May 27, 2016) was published, we received a comment from one commenter.

**Request**

Robinson requested we change the applicability of the AD for part number (P/N) C016-7 from "Revision N/C, A through Z, and AA through AE" to "Revision AA through AE." Robinson stated that P/N C016-7 did not exist until Revision AA and suggested that some technicians may wrongfully apply the proposed AD to P/N C016-5 Revisions W thru Z.

We agree and have revised the AD accordingly.

**FAA's Determination**

We have reviewed the relevant information, considered the comment received, and determined that an unsafe condition exists and is likely to exist or develop on other products of these same type designs and that air safety and the public interest require adopting the AD requirements as proposed with the change previously described. This change is consistent with the intent of the proposals in the NPRM (81 FR 33609, May 27, 2016) and will not increase the economic burden on any operator nor increase the scope of the AD.

**Related Service Information Under 1 CFR Part 51**

We reviewed Robinson R44 Service Bulletin SB-89, dated March 30, 2015 (SB-89), for Model R44 and R44 II helicopters and Robinson R66 Service Bulletin SB-13, dated March 30, 2015 (SB-13), for Model R66 helicopters. SB-89 and SB-13 provide a one-time procedure to inspect each MRB for cracks, corrosion, and damage that may indicate a crack. If there is a crack, corrosion, or any damage, SB-89 and SB-13 specify removing the MRB from service and contacting Robinson.

Otherwise, SB-89 and SB-13 describe procedures to smooth the transition at the chord increase of each MRB to reduce the stress concentration.

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**

This AD requires compliance within the next 100 hours time-in-service (TIS) or at the next annual inspection, whichever occurs first. The service information recommends compliance within 15 hours TIS or by May 31, 2015, whichever occurs first, for the R44 and R44 II helicopters and 10 hours TIS or by May 31, 2015, whichever occurs first, for the R66 helicopters.

### **Costs of Compliance**

We estimate that this AD affects 2,236 helicopters of U.S. Registry and that labor costs average \$85 per work hour. Based on these estimates, we expect the following costs:

- The visual inspection requires 1 work hour. No parts are needed, so the cost per helicopter totals \$85. The cost for the U.S. fleet totals \$190,060.
- Altering each MRB, if necessary, requires 2 work hours and \$65 for parts. We estimate a total cost of \$235 per helicopter and \$525,460 for the U.S. fleet.
- Replacing an MRB, if necessary, requires 3 work hours. Parts cost \$19,900 for the Model R44 and R44 II and \$20,900 for the R66 helicopter for a total cost of \$20,155 and \$21,155, respectively, per MRB.

### **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**

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) 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):



---

**2016-26-04 Robinson Helicopter Company:** Amendment 39-18762; Docket No. FAA-2016-0733; Directorate Identifier 2015-SW-040-AD.

**(a) Applicability**

This AD applies to Robinson Helicopter Company (Robinson) Model R44 and R44 II helicopters with a main rotor blade (MRB) part number (P/N) C016-7, Revision AA through AE installed; and Model R66 helicopters with a MRB P/N F016-2, Revision A through E, installed; certificated in any category.

**(b) Unsafe Condition**

This AD defines the unsafe condition as a fatigue crack on an MRB. This condition could result in failure of an MRB and loss of helicopter control.

**(c) Effective Date**

This AD becomes effective February 8, 2017.

**(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 100 hours time-in-service or at the next annual inspection, whichever occurs first:

(1) Clean each MRB in the area depicted in Figure 1 of Robinson R44 Service Bulletin SB-89, dated March 30, 2015 (SB-89), or Robinson R66 Service Bulletin SB-13, dated March 30, 2015 (SB-13), as applicable to your model helicopter.

(2) Using 10X or higher power magnification and a light, visually inspect the upper and lower MRB surfaces and trailing edge as depicted in Figure 1 of SB-89 or SB-13, whichever applies to your helicopter, for a crack, a nick, a scratch, a dent, or corrosion. If there is a crack, a nick, a scratch, a dent, or any corrosion, repair the MRB to an airworthy configuration if the damage is within the maximum repair damage limits or remove the MRB from service.

(3) Alter the MRB in accordance with Compliance Procedure, paragraphs 4 through 19, of SB-89 or SB-13, as applicable to your model helicopter. Equivalent tubing may be used for R7769-1 and R7769-6 tubes. Power tools may not be used for this procedure.

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

(1) The Manager, Los Angeles Aircraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to: Eric Schrieber, Aviation Safety Engineer, Los Angeles Aircraft Certification Office, Transport Airplane Directorate, FAA, 3960 Paramount Blvd., Lakewood, California 90712; telephone (562) 627-5348; email 9-ANM-LAACO-AMOC-REQUESTS@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: 6210, Main Rotor Blades.

**(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) Robinson R44 Service Bulletin SB-89, dated March 30, 2015.

(ii) Robinson R66 Service Bulletin SB-13, dated March 30, 2015.

(3) For Robinson Helicopter Company service information identified in this AD, contact Robinson Helicopter Company, 2901 Airport Drive, Torrance, CA 90505; telephone (310) 539-0508; fax (310) 539-5198; or at <http://www.robinsonheli.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 December 15, 2016.

Stephen Barbini,  
Acting Manager, Rotorcraft Directorate,  
Aircraft Certification Service.