

[Federal Register Volume 79, Number 125 (Monday, June 30, 2014)]  
[Rules and Regulations]  
[Pages 36629-36631]  
From the Federal Register Online via the Government Printing Office [www.gpo.gov]  
[FR Doc No: 2014-14800]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2014-0385; Directorate Identifier 2013-SW-079-AD; Amendment 39-17879; AD 2014-13-04]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Columbia Helicopters, Inc. (Type Certificate Previously Held by Boeing Defense & Space Group) Helicopters**

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

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

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for Columbia Helicopters, Inc. (Columbia) Model 234 helicopters. This AD requires visually and tap inspecting each fore and aft rotor blade for any defect, damage, or a disbond and, if necessary, repairing or replacing the blade. Also, this AD requires dye-penetrant inspecting the aft pylon structure for fatigue cracking in certain areas near the attachment fittings and, if there is a crack, repairing or replacing the aft pylon. This AD is prompted by an accident caused by fatigue failure of an aft pylon fitting attach structure combined with aft rotor blade damage. The actions specified by this AD are intended to detect fatigue cracks in the aft pylon attach structure to prevent overload of the aft pylon structure and failure of the rotor blade, rotor blade vibration, departure of the aft pylon, and subsequent loss of control of the helicopter.

**DATES:** This AD becomes effective July 15, 2014.

The Director of the Federal Register approved the incorporation by reference of certain documents listed in this AD as of July 15, 2014.

We must receive comments on this AD by August 29, 2014.

**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> 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 AD, contact Columbia Helicopters, Inc., 14452 Arndt Road NE., Aurora OR 97002, telephone (503) 678-1222, fax (503) 678-5841, or at <http://www.colheli.com/>.

You may review the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

**FOR FURTHER INFORMATION CONTACT:** Kathleen Arrigotti, Aviation Safety Engineer, Seattle Aircraft Certification Office, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, Washington 98057; telephone (425) 917-6426; email [kathleen.arrigotti@faa.gov](mailto:kathleen.arrigotti@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 Columbia Model 234 helicopters. This AD requires visually and tap inspecting each rotor blade for any defect, damage, or disbond. If there is a defect, damage, or a disbond, this AD requires the blade to be repaired or replaced before further flight. Also, this AD requires dye-penetrant inspecting the aft pylon structure for a crack in the area of the station (STA) 534 and 594 tension attachment fittings. If there is a crack, this AD requires repairing or replacing the aft pylon before further flight. This AD is prompted by an accident caused by fatigue failure of the structure surrounding the aft pylon following an aft rotor blade failure. Due to existing blade damage, a portion of an aft rotor blade separated from the aircraft, causing vibration, which accelerated fatigue cracking of the aft pylon surrounding structure and overloaded the structure to failure. This caused the aft pylon to separate from the aircraft. The actions specified in this AD are intended to detect cracks in the aft pylon surrounding structure and defects, damage, or disbonds in the rotor blades and

to prevent separation of a portion of the rotor blade, vibration, overload of the aft pylon surrounding structure, departure of the aft pylon, and subsequent 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 helicopters of this same type design.

### **Related Service Information**

Columbia issued Service Bulletin No. 234-54-0004, Revision 0, dated November 22, 2013 (SB 234-54-0004), specifying an initial and recurring dye-penetrant inspection to detect and correct cracking of the aft pylon structure at the STA 534 and 594 tension attachment fittings. If a crack is found, SB 234-54-0004 specifies contacting the manufacturer before further flight.

Columbia also issued Service Bulletin No. 234-62-0008, Revision 1, dated December 6, 2013 (SB 234-62-0008), specifying recurring visual inspections of the entire rotor blade for defects, damage and disbonds and recurring tap inspections of the rotor blade trailing edge for disbonding conditions. If any damage or disbond is detected, SB 234-62-0008 specifies referring to the maintenance manual for serviceability and repair, contacting the manufacturer for repair assistance, or replacing the blade before further flight.

### **AD Requirements**

This AD requires:

- Within 50 hours time-in-service (TIS):
  - Cleaning, visually inspecting, and tap inspecting each rotor blade for a defect, damage, or disbond.
  - Repairing any defect, damage, or disbond if within acceptable limits, and replacing the blade if beyond acceptable limits, before further flight.
- Within 50 hours TIS and thereafter at intervals not to exceed 100 hours TIS, inspecting the aft pylon at STA 534 and 594 as follows:
  - Dye-penetrant inspecting the aft pylon at the attachment fittings and surrounding structure for a crack.
  - If there is a crack, before further flight, repairing or replacing the aft pylon.

This AD prohibits installing an aft pylon or a rotor blade until these inspections are accomplished.

### **Differences Between This AD and the Service Information**

This AD does not require the 500-hour TIS inspection of the rotor blade or the 3,000 hour TIS after initial inspection of the pylon structure as specified in the service information. We plan to publish a notice of proposed rulemaking to give the public an opportunity to comment on those long-term requirements. Also, this AD does not require contacting the manufacturer.

## **Interim Action**

We consider this AD to be an interim action. The design approval holder is currently developing a terminating action that will address the unsafe condition identified in this AD. Once this terminating action is identified, we might consider further rulemaking then.

## **Costs of Compliance**

We estimate that this AD affects 4 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 hour. We estimate 1 work hour to visually inspect all blades, 6 work hours to dye-penetrant inspect the pylon, and 4 work hours to do the tap test inspection. Based on these estimates, the total cost is \$935 per helicopter and \$3,740 for the U.S. fleet. To replace a blade, we estimate 4 work hours and \$250,000 for parts, for a total cost of \$250,340 per helicopter.

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

Providing an opportunity for public comments before 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 adopting this rule because of the severity of the failure and high rate of occurrence for repairs in blades and cracks in the pylon on other aircraft. Also, the required corrective actions must be done within 50 hours TIS, a very short time period based on the average flight-hour utilization rate of these helicopters. The repetitive inspections are required at intervals not to exceed 100 hours TIS, which can be reached within as short a time as 2 weeks.

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



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**2014-13-04 Columbia Helicopters, Inc. (Type Certificate Previously Held By Boeing Defense & Space Group) Helicopters:** Amendment 39-17879; Docket No. FAA-2014-0385; Directorate Identifier 2013-SW-079-AD.

**(a) Applicability**

This AD applies to Model 234 helicopters, certificated in any category.

**(b) Unsafe Condition**

This AD defines the unsafe condition as fatigue failure of aft pylon fitting attach structure combined with aft rotor blade damage. This condition could result in failure of a fore or aft rotor blade, vibration, overload of the aft pylon structure at the pylon attach fittings, departure of the aft pylon, and subsequent loss of control of the helicopter.

**(c) Effective Date**

This AD becomes effective July 15, 2014.

**(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) Within 50 hours time-in-service (TIS):

(i) Clean and inspect each fore and aft rotor blade for a defect, damage, or a disbond in accordance with the Accomplishment Instructions, paragraph 3.A.(1)(b) through 3.A.(2)(b), of Columbia Helicopters, Inc., Service Bulletin No. 234-62-0008, Revision 1, dated December 6, 2013 (SB 234-62-0008).

(ii) Using a metallic coin or tap hammer, tap inspect each rotor blade trailing edge for defect, damage, or a disbond in accordance with the Accomplishment Instructions, paragraph 3.B.(1) through 3.B.(2)(e) and Figures 1 and 2 of SB 234-62-0008.

(iii) If there is any defect, damage, or a disbond, repair the blade before further flight. If the defect, damage, or disbond is beyond acceptable limits, replace the blade before further flight.

(2) Within 50 hours TIS and thereafter at intervals not to exceed 100 hours TIS, inspect the aft pylon at the station 534 and 594 tension attachment fittings as follows:

(i) Dye-penetrant inspect the aft pylon at the attachment fitting for a crack as shown in Figures 1, 2, and 3 and by following the Detailed Special Inspection-Dye Penetrant Method, paragraph 2.A.(2) through 2.G.(1), of Columbia Helicopters, Inc. Service Bulletin No. 234-54-0004, Revision 0, dated November 22, 2013 (SB 234-54-0004).

(ii) If there is a crack, before further flight, repair or replace the aft pylon. Figures 2, 3, 4, and 5 of SB 234-54-0004 contain examples of a crack.

(3) Do not install an aft pylon or a rotor blade until the requirements of paragraphs (e)(1) and (e)(2) of this AD are accomplished.

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

(1) The Manager, Seattle Aircraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to: 9-ANM-Seattle-ACO-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: 5400 and 6210 Nacelle/Pylon Structure and 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) Columbia Helicopters, Inc., Service Bulletin No. 234-54-0004, Revision 0, dated November 22, 2013.

(ii) Columbia Helicopters, Inc., Service Bulletin No. 234-62-0008, Revision 1, dated December 6, 2013.

(3) For service information identified in this AD, contact Columbia Helicopters, Inc., 14452 Arndt Road NE., Aurora, OR 97002, telephone (503) 678-1222, fax (503) 678-5841, or at <http://www.colheli.com/>.

(4) You may view this service information at FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137. 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 16, 2014.

Lance T. Gant,  
Acting Directorate Manager, Rotorcraft Directorate,  
Aircraft Certification Service.