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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2012-0566; Directorate Identifier 2011-SW-008-AD; Amendment 39-17065; AD 2012-11-02]**

**RIN 2120-AA64**

# Airworthiness Directives; Eurocopter Deutschland GmbH Helicopters

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

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

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**SUMMARY:** We are adopting a new airworthiness directive (AD) that supersedes an existing Emergency Airworthiness Directive (EAD) for certain Eurocopter Deutschland GmbH (ECD) Model EC135 helicopters. The existing EAD, which was previously sent to all known U.S. owners and operators of ECD Model EC135 helicopters and not made generally effective by publication in the Federal Register, currently requires inspecting the ring frame between the rear structure tube (tailboom) and the tail rotor fenestron housing (fenestron housing) for a crack before the first flight of each day and replacing any cracked ring frame with an airworthy ring frame. Since we issued that EAD, we have determined that a pre-flight pilot check in conjunction with a recurring 25-hour inspection is sufficient for determining the airworthiness of the ring frame. Additionally, ECD has developed a modification that is terminating action for the requirements of that EAD. This superseding AD revises the inspection requirements of the EAD to allow an owner/operator to perform the pre-flight pilot check, adds a recurring inspection of the ring frame, and allows for installation of a ring frame reinforcement as an optional terminating action for the AD requirements. The actions are intended to detect a crack in the ring frame which could result in loss of the fenestron structure and subsequent loss of control of the helicopter.

**DATES:** This AD becomes effective July 10, 2012.

The Director of the Federal Register approved the incorporation by reference of certain documents listed in this AD as of July 10, 2012.

We must receive comments on this AD by August 24, 2012.

**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, 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 American Eurocopter Corporation, 2701 N. Forum Drive, Grand Prairie, TX 75052, telephone (972) 641-0000 or (800) 232-0323, fax (972) 641-3775, or at http://www.eurocopter.com/techpub. You may review a copy of 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:** Sharon Miles, Aerospace Engineer, FAA, Rotorcraft Directorate, Regulations and Policy Group, 2601 Meacham Blvd., Fort Worth, Texas 76137; phone (817) 222-5110; email: sharon.y.miles@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**

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA EAD No.: 2008-0190-E, dated October 13, 2008 (EAD 2008-0190-E), to correct an unsafe condition for EC135 and EC635 model helicopters. EASA advises that, during a recent pre-flight check on an EC 135 helicopter, a crack was detected on the ring frame that connects the tail rotor fenestron housing to the rear structure tube (tailboom). EASA states that this condition, if not corrected, could lead to crack propagation remaining undetected, possibly resulting in loss of the fenestron structure and loss of control of the helicopter. EAD 2008-0190-E requires accomplishing a pilot pre-flight check of the rear structure tube for cracks before each first flight of the day; amending the flight manual to reflect the pilot pre-flight check; within 25 flight hours, having the rear structure tube inspected for cracks by a mechanic; and, if any cracks are detected contacting ECD for approved corrective actions.

On October 16, 2008, we issued EAD No. 2008-22-51 (EAD 2008-22-51) for the ECD Model EC135 helicopter. That EAD requires, before further flight and thereafter before the first flight of each day, visually inspecting the ring frame between the tailboom and fenestron housing for a crack, and replacing the ring frame with an airworthy ring frame if there is a crack. That EAD resulted from two reports of cracks on the ring frame connecting the tail rotor fenestron housing to the tailboom. The first crack was discovered in Germany and is discussed in EAD 2008-0190-E. The second crack, which was 9 inches long, was discovered in the U.S. and was in the same area as the first reported crack. We issued EAD 2008-22-51 to detect a crack in the ring frame, which could result in loss of the fenestron structure and subsequent loss of control of the helicopter.

**Actions Since Existing EAD Was Issued**

Since we issued EAD 2008-22-51, EASA issued AD No.: 2009-0065, dated March 13, 2009 (AD 2009-0065), which supersedes EAD 2008-0190-E. AD 2009-0065 retains the requirements of EAD 2008-0190-E, expands the applicability to EC 135 helicopters manufactured in Spain, and adds a repetitive 100-hour inspection of the rear fuselage structure area for cracks.

EASA next issued AD No.: 2009-0065R1, dated September 8, 2009 (AD 2009-0065R1), which revises AD 2009-0065. EASA advises that ECD has developed a modification (reinforcement) of the aft ring frame, including a part number (P/N) change, for both production and in-service application. Consequently, AD 2009-0065R1 retains the inspection requirements of AD 2009-0065 but limits its applicability to helicopters without the reinforced aft ring frame installed, and allows installation of the reinforced aft ring frame as an optional terminating action for the repetitive checks and inspections.

EASA then issued AD No.: 2010-0254, dated December 20, 2010 (AD 2010-0254), which supersedes AD 2009-0065R1. AD 2010-0254 retains the repetitive inspection requirements of AD 2009-0065R1, but reduces the interval of the visual inspection from 100 hours to 25 hours and requires installation of the reinforced aft ring frame within 12 months as terminating action for the repetitive checks and inspections.

Since we issued EAD 2008-22-51, we have determined that a pre-flight pilot check in conjunction with a recurring 25-hour inspection is sufficient for determining the airworthiness of the ring frame. Therefore, we are issuing this AD to revise the inspection requirements, as well as allow for the optional terminating action developed by ECD.

**FAA's Determination**

These helicopters have been approved by the aviation authority of Germany and are approved for operation in the United States. Pursuant to our bilateral agreement with Germany, EASA, their technical representative, has notified us of the unsafe condition described in the EASA AD. We are issuing this AD because we evaluated all information provided by EASA and determined the unsafe condition is likely to exist or develop on other helicopters of these same type designs.

**Related Service Information**

We reviewed ECD Emergency Alert Service Bulletin (ASB) EC135-53A-022, Revision 02, dated November 30, 2010 (ASB EC135-53A-022). ASB EC135-53A-022 describes procedures for a pilot check of the ring frame during the preflight check. ASB EC135-53A-022 additionally prescribes a recurring inspection of the ring frame every 25 flight hours and accomplishment of ECD Service Bulletin EC135-53-023, as corrected November 13, 2009 (SB EC135-53-023), which describes procedures to attach a frame reinforcement to the ring frame. The correction coversheet attached to SB EC135-53-023 is dated November 13, 2009; it describes the correction on page 6 of the service bulletin. All pages of the corrected service bulletin show the original issue date of August 19, 2009; the date has been underlined on page 6 of the corrected service bulletin. Accomplishment of SB

EC135-53-023 constitutes terminating action for the visual inspection requirements of ASB EC135-53A-022.

**AD Requirements**

This AD supersedes EAD 2008-22-51 and requires the following:

- Before further flight, and thereafter at each preflight check, performing a visual check of the ring frame which connects the tail rotor Fenestron housing to the tailboom for a crack. An owner/operator (pilot) may perform this check because it involves only a visual check for a crack in the ring frame and can be performed equally well by a pilot or a mechanic.
- Within 25 hours time-in-service (TIS), and every 25 hours TIS thereafter, removing the tail rotor drive shaft paneling and inspecting the ring frame for a crack.
- As an optional terminating action for the requirements of this AD, installing a frame reinforcement to the ring frame and re-identifying the ring frame by following specified portions of the manufacturer's service bulletin.

Differences Between This AD and the EASA AD

This AD differs from the EASA AD as follows:

- The EASA AD requires amendment of the Flight Manual with a page from ASB EC135-53A-022. Following issuance of the EASA AD, a revision has been published for the Flight Manuals and the amended pages are no longer issued with ASB EC135-53A-022. Therefore, this AD does not require this.
- The EASA AD requires modification of the aft ring frame within 12 months as terminating action; this AD provides it as an optional terminating action.
- The EASA AD applies to the Model EC 635 helicopter, and this AD does not include this model because it does not have an FAA-issued type certificate.
- The EASA AD includes a "tolerance" range for accomplishment of the pilot check and visual inspections. This AD does not allow this.

**Interim Action**

We consider this AD interim action. We are currently considering requiring the installation of the ECD-developed ring frame modification as terminating action for the repetitive inspection requirements of this AD. However, the planned compliance time for the installation of the modification would allow enough time to provide notice and opportunity for prior public comment on the merits of the modification.

**Costs of Compliance**

We estimate that this AD will affect 226 helicopters of U.S. Registry. We estimate that operators may incur the following costs in order to comply with this AD. Inspecting the ring frame requires .5 work-hour at an average labor rate of $85 per hour, for a cost per inspection cycle of $42.50 per helicopter, and a cost to the fleet of $9,605. Replacing a cracked ring frame will require about 8 work hours at an average labor rate of $85 per hour, and a parts cost of $7,425, for a total cost per helicopter of $8,105. Modifying and re-identifying the ring frame requires 17 work-hours and a parts cost of $1,320, for a total cost per helicopter of $2,765 and the cost to the fleet is $624,890.

According to the manufacturer, they will cover all parts costs for a cracked ring frame, thereby reducing the cost impact on affected persons. However, as we do not control such coverage by the manufacturer, we have included all costs in our cost estimate.

**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 some of the required checks and inspections 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):

**2012-11-02 Eurocopter Deutschland GmbH:** Amendment 39-17065; Docket No. FAA-2012-0566; Directorate Identifier 2011-SW-008-AD.

**(a) Applicability**

This AD applies to Model EC135 helicopters with a ring frame, part number (P/N) L535A3501230, installed, certificated in any category.

**(b) Unsafe Condition**

This AD defines the unsafe condition as a crack in the ring frame connecting the rear structure tube (tailboom) and the tail rotor fenestron housing. This condition could result in loss of the fenestron structure and subsequent loss of control of the helicopter.

**(c) Other Affected ADs**

This AD supersedes Emergency AD 2008-22-51, dated October 16, 2008.

**(d) Effective Date**

This AD becomes effective July 10, 2012.

**(e) 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.

**(f) Required Actions**

(1) Before further flight, and thereafter at before the first flight of the day, visually check the ring frame that connects the tail rotor fenestron housing to the tailboom for a crack. This action may be performed by the owner/operator (pilot) holding at least a private pilot certificate, and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR 43.9 (a)(1)-(4) and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR 91.173, 121.380, or 135.439.

(2) Within 25 hours time-in-service (TIS), and thereafter at intervals not to exceed 25 hours TIS, remove the tail rotor driveshaft paneling and visually inspect the ring frame for a crack.

(3) While performing a check or an inspection as required in paragraph (f)(1) or (f)(2) of this AD, paint cracks around the rivet heads and in the transition area between the tailboom and ring frame or between the ring frame and fenestron housing may be present and do not create an unsafe condition. If you are unable to determine whether a crack is on the paint or on the ring frame, you must remove the paint to do an accurate inspection.

(4) If there is a crack in the ring frame, before further flight, replace it with an airworthy ring frame.

(5) As an optional terminating action for the requirements of this AD, you may install a frame reinforcement to the ring frame and re-identify the ring frame in accordance with the Accomplishment Instructions, paragraph 3.B. of Eurocopter EC135 Service Bulletin EC135-53-023, as corrected on November 13, 2009, except you are not required to contact ECD as noted under paragraphs 3.B.(3) Caution and 3.B.(8).

**(g) Special Flight Permits**

Special flight permits are prohibited.

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

(1) The Manager, Safety Management Group, FAA, may approve AMOCs for this AD. Send your proposal to: Sharon Miles, Aerospace Engineer, FAA, Rotorcraft Directorate, Regulations and Policy Group, 2601 Meacham Blvd., Fort Worth, Texas 76137; phone (817) 222-5110; email: sharon.y.miles@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.

**(i) Additional Information**

(1) Eurocopter Emergency Alert Service Bulletin (ASB) EC135-53A-022, Revision 02, dated November 30, 2010, which is not incorporated by reference, contains additional information about the subject of this AD. For service information identified in this AD, contact American Eurocopter Corporation, 2701 N. Forum Drive, Grand Prairie, TX 75052, telephone (972) 641-0000 or (800) 232-0323, fax (972) 641-3775, or at http://www.eurocopter.com/techpub. You may review a copy of the service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

(2) The subject of this AD is addressed in European Aviation Safety Agency AD No. 2010-0254, dated December 20, 2010.

**(j) Subject**

Joint Aircraft Service Component (JASC) Code: 5302: Rotorcraft Tailboom.

**(k) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) 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) Eurocopter EC135 Service Bulletin EC135-53-023, as corrected on November 13, 2009. The correction coversheet attached to this document is dated November 13, 2009; it describes the correction on page 6 of the service bulletin. All pages of the corrected service bulletin show the original issue date of August 19, 2009. On page 6 of the corrected service bulletin the date has been underlined.

(ii) Reserved.

(3) For Eurocopter service information identified in this AD, contact American Eurocopter Corporation, 2701 N. Forum Drive, Grand Prairie, TX 75052, telephone (972) 641-0000 or (800) 232-0323, fax (972) 641-3775, or at http://www.eurocopter.com/techpub.

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

(5) You may also view this service information 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/code_of_federal_regulations/ibr_locations.html.

Issued in Fort Worth, Texas, on May 22, 2012.

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