FAA
Aviation Safety

EMERGENCY AIRWORTHINESS DIRECTIVE
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DATE: July 1, 2022
AD #: 2022-14-51

Emergency Airworthiness Directive (AD) 2022-14-51 is sent to owners and operators of Airbus Helicopters Model EC225LP helicopters.

Background

This emergency AD was prompted by a report of a cracked main rotor head (MRH) sleeve. This emergency AD requires one-time visual inspections and, depending on the results, accomplishing additional inspections, repairing the MRH sleeve in accordance with a certain approval, and removing the MRH sleeve from service and installing an airworthy part. This emergency AD also prohibits installing an MRH sleeve unless certain inspections have been accomplished. This condition, if not addressed, could result in failure of an MRH sleeve, loss of a main rotor blade, and subsequent loss of the helicopter.

The European Union Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA Emergency AD 2022-0130-E, dated June 30, 2022 (EASA AD 2022-0130-E), to correct an unsafe condition for Airbus Helicopters (AH), formerly Eurocopter, Model EC 225 LP helicopters. EASA advises of a crack in an MRH sleeve that investigation determined was a fatigue crack that had initiated from a corrosion pit located in an area with chipped paint. Accordingly, EASA AD 2022-0130-E requires initial one-time detailed visual inspections of MRH sleeve part number (P/N) 332A31-3071-00 and depending on the results, follow-on repetitive inspections and corrective actions.

FAA's Determination

These helicopters have been approved by EASA and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the European Union, EASA has notified the FAA about the unsafe condition described in its emergency AD. The FAA is issuing this emergency AD after evaluating all known relevant information and determining that the unsafe condition described previously is likely to exist or develop on other helicopters of the same type design.

Related Service Information

The FAA reviewed Airbus Helicopters Emergency Alert Service Bulletin No. 62A017, Revision 0, dated June 30, 2022. This service information specifies procedures for one-time detailed visual inspections of a certain area (identified as "Specific area" in Figure 3 of the service information) of MRH sleeve P/N 332A31-3071-00. Depending on the one-time inspection results, this service information specifies procedures for follow-on inspections, which include eddy current inspections, chemical stripping, and fluorescent penetrant inspections; and corrective actions, which include applying primer and paint protection, removing corrosion, applying a protective coating, contacting Airbus Helicopters for corrective action, and removing and returning the MRH sleeve to Airbus Helicopters.

Emergency AD Requirements

This emergency AD requires visually inspecting the "Specific area" of each MRH sleeve P/N 332A31-3071-00 for flaking and paint touch-up. If there is any flaking or paint touch-up, this emergency AD requires visually inspecting the "Specific area" of the MRH sleeve for a crack.

As a result of the visual inspection, if there is a crack, this emergency AD requires removing the MRH sleeve from service and installing an airworthy part. If there is not a crack, this emergency AD requires an inspector with a certain qualification using high-frequency eddy current (HFEC) to inspect the "Specific area" of the MRH sleeve for a crack.

As a result of the HFEC, if there is a crack, this emergency AD requires removing the MRH sleeve from service and installing an airworthy part. If there is not a crack, this emergency AD requires chemically stripping and fluorescent penetrant inspecting (FPI) the "Specific area" of the MRH sleeve for corrosion.

As a result of the FPI, if there is corrosion, this emergency AD requires removing the corrosion by hand and repeating the FPI of each affected area to inspect for corrosion, and depending on the subsequent results, removing the MRH sleeve from service and installing an airworthy part; or drying the MRH sleeve, applying a protective coating, primer, and paint protection, and having an inspector with a certain qualification using HFEC repetitively inspect the "Specific area" of the MRH sleeve for a crack. If there is a crack, this emergency AD requires removing the MRH sleeve from service and installing an airworthy part. However, if the corrosion cannot be removed by hand, this emergency AD requires removing the MRH sleeve from service and installing an airworthy part or repairing the MRH sleeve in accordance with a certain approved method.

As a result of the first FPI, if there is no corrosion, this emergency AD requires applying primer and paint protection.

As an option to the first FPI and its follow-on actions, if there is not a crack, this emergency AD allows applying primer and paint protection or, for any areas with flaking paint, applying only varnish instead of primer and paint protection on each flaking paint area; and having an inspector with a certain qualification using HFEC to repetitively inspect the "Specific area" of the MRH sleeve for a crack. If there is a crack, this emergency AD requires removing the MRH sleeve from service and installing an airworthy part.

This emergency AD also prohibits installing an MRH sleeve unless specified one-time visual inspections have been accomplished.

Differences Between This Emergency AD and the EASA AD

If there is corrosion in an MRH sleeve, EASA AD 2022-0130-E requires contacting Airbus Helicopters for approved repair instructions, whereas this emergency AD requires removing the MRH sleeve from service or repairing the MRH sleeve in accordance with a certain approved method.

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.

Presentation of the Actual Emergency AD

The FAA is issuing this emergency AD under 49 U.S.C. Section 44701 according to the authority delegated to me by the Administrator.

2022-14-51 Airbus Helicopters: Project Identifier MCAI-2022-00873-R.

(a) Effective Date

This emergency AD is effective upon receipt.

(b) Affected ADs

None.

(c) Applicability

This emergency AD applies to Airbus Helicopters Model EC225LP helicopters, certificated in any category, with main rotor hub (MRH) sleeve part number 332A31-3071-00 installed.

(d) Subject

Joint Aircraft Service Component (JASC) Code: 6200, Main Rotor System.

(e) Unsafe Condition

This emergency AD was prompted by a report of a cracked MRH sleeve. The FAA is issuing this emergency AD to detect corrosion or cracking in an MRH sleeve. The unsafe condition, if not addressed, could result in failure of an MRH sleeve, loss of a main rotor blade, and subsequent loss of the helicopter.

(f) Compliance

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

(g) Required Actions

(1) Before further flight after the effective date of this emergency AD, visually inspect the "Specific area" of each MRH sleeve as depicted in Figure 3 of Airbus Helicopters Emergency Alert Service Bulletin No. 62A017, Revision 0, dated June 30, 2022 (ASB 62A017), for flaking and paint touch-up.

(2) As a result of the actions required by paragraph (g)(1) of this emergency AD, if there is no flaking or paint touch-up, no further action is required. If there is any flaking or paint touch-up, before further flight, visually inspect the "Specific area" of the MRH sleeve as depicted in Figure 3 of ASB 62A017 for a crack.

(3) As a result of the actions required by paragraph (g)(2) of this emergency AD, if there is a crack, before further flight, remove the MRH sleeve from service and replace it with an airworthy part. If there is not a crack, within 15 hours time-in-service (TIS) or 3 months, whichever occurs first after accomplishing the actions required by paragraph (g)(1) of this emergency AD, use high-frequency eddy current (HFEC) to inspect the "Specific area" of the MRH sleeve as depicted in Figure 3 of ASB 62A017 for a crack. This HFEC inspection must be accomplished by a Level II or III inspector certified in the eddy current fault detection method in the Aeronautics Sector according to the EN4179 or NAS410 standard.

(4) As a result of the actions required by paragraph (g)(3) of this emergency AD, if there is a crack, before further flight, remove the MRH sleeve from service and replace it with an airworthy part. If there is not a crack, before further flight, chemically strip and fluorescent penetrant inspect (FPI) the "Specific area" of the MRH sleeve as depicted in Figure 3 of ASB 62A017 for corrosion.

(i) If there is corrosion as a result of the actions required by the introductory text of paragraph (g)(4) of this emergency AD, before further flight, accomplish the actions required by paragraph (g)(4)(i)(A) or (B) of this emergency AD.

(A) Remove the corrosion by hand using 120-grit abrasive cloth, followed by 400-grit abrasive cloth. After removing the corrosion, perform an FPI of each affected area to inspect for corrosion, and accomplish the actions required by paragraph (g)(4)(i)(A)(*1*) or (*2*) of this emergency AD.

(*1*) If there is corrosion, before further flight, remove the MRH sleeve from service and replace it with an airworthy part or repair it in accordance with a method approved by the Manager, General Aviation & Rotorcraft Section, International Validation Branch, FAA; or EASA; or Airbus Helicopters' EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(*2*) If there is no corrosion, before further flight, completely dry the MRH sleeve and apply a protective coating, primer, and paint protection. Following application, within 15 hours TIS and thereafter at intervals not to exceed 15 hours TIS, use HFEC to inspect the "Specific area" of the MRH sleeve as depicted in Figure 3 of ASB 62A017 for a crack. This HFEC inspection must be accomplished by a Level II or III inspector certified in the eddy current fault detection method in the Aeronautics Sector according to the EN4179 or NAS410 standard. If there is a crack, before further flight, remove the MRH sleeve from service and replace it with an airworthy part. Accomplishment of the HFEC inspections with no detected cracks after 75 hours TIS since applying the coating, primer, and paint protection constitutes a terminating action for the repetitive inspections required by this paragraph.

(B) If the corrosion cannot be removed by hand as specified in paragraph (g)(4)(i)(A) of this emergency AD, before further flight, remove the MRH sleeve from service and replace it with an airworthy part or repair it in accordance with a method approved by the Manager, General Aviation & Rotorcraft Section, International Validation Branch, FAA; or EASA; or Airbus Helicopters' EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(ii) If there is no corrosion as a result of the actions required by the introductory text of paragraph (g)(4) of this emergency AD, before further flight, apply primer and paint protection.

(5) As an option to the actions required by paragraph (g)(4) of this emergency AD, if there is not a crack, accomplish the actions required by paragraphs (g)(5)(i) and (ii) of this emergency AD.

(i) Before further flight, apply primer and paint protection. If there is any area with flaking paint, you may apply only varnish instead of primer and paint protection on each flaking paint area.

(ii) Within 15 hours TIS after accomplishing the actions required by paragraph (g)(5)(i) of this emergency AD and thereafter at intervals not to exceed 15 hours TIS, HFEC inspect the "Specific area" of the MRH sleeve as depicted in Figure 3 of ASB 62A017 for a crack. This HFEC inspection must be accomplished by a Level II or III inspector certified in the eddy current fault detection method in the Aeronautics Sector according to the EN4179 or NAS410 standard. If there is a crack, before further flight, remove the MRH sleeve from service and replace it with an airworthy part.

(6) As of the effective date of this emergency AD, do not install an MRH sleeve identified in paragraph (c) of this emergency AD on any helicopter unless the actions required by paragraphs (g)(1) and (2) of this emergency AD have been accomplished.

(h) Special Flight Permits

A special flight permit may be issued in accordance with 14 CFR 21.197 and 21.199 provided that there are no passengers onboard and there is no crack or corrosion in an MRH sleeve.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this emergency 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 International Validation Branch, send it to the attention of the person identified in paragraph (j)(1) of this emergency AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@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.

(j) Related Information

(1) For more information about this emergency AD, contact Kristi Bradley, Program Manager, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-5110; email kristin.bradley@faa.gov.

(2) For service information identified in this emergency AD, contact Airbus Helicopters, 2701 North Forum Drive, Grand Prairie, TX 75052; telephone (972) 641-0000 or (800) 232-0323; fax (972) 641-3775; or at https://www.airbus.com/helicopters/services/technical-support.html. You may view this referenced 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.

(3) The subject of this emergency AD is addressed in European Union Aviation Safety Agency (EASA) Emergency AD 2022-0130-E, dated June 30, 2022.

Issued on July 1, 2022.

Ross Landes, Deputy Director for Regulatory Operations,
Compliance & Airworthiness Division,
Aircraft Certification Service.