



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2023-1720; Project Identifier MCAI-2023-00003-R; Amendment 39-22598; AD 2023-22-14]

RIN 2120-AA64

#### Airworthiness Directives; Airbus Helicopters

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

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for Airbus Helicopters Model SA-365C1, SA-365C2, and SA-365N helicopters. This AD was prompted by reports of damaged control rod dual bearings (dual bearings) that are installed on the tail rotor gearbox (TGB). This AD requires repetitively inspecting the TGB magnetic plug for particles, analyzing any particles collected, taking corrective actions if necessary, and reporting certain information. Finally, this AD allows an affected dual bearing to be installed on a helicopter if certain actions are accomplished, as specified in a European Union Aviation Safety Agency (EASA) AD, which is incorporated by reference. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **ADDRESSES:**

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-1720; 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 final rule, any comments received, and other information. The address for Docket Operations is U.S.

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

*Material Incorporated by Reference:*

- For EASA material identified in this final rule, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu); internet [easa.europa.eu](http://easa.europa.eu). You may find the EASA material on the EASA website [ad.easa.europa.eu](http://ad.easa.europa.eu).

- You may view this material at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Parkway, Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at [regulations.gov](http://regulations.gov) under Docket No. FAA-2023-1720.

*Other Related Service Information:* For Airbus Helicopters service information identified in this 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 [airbus.com/en/products-services/helicopters/hcare-services/airbusworld](http://airbus.com/en/products-services/helicopters/hcare-services/airbusworld). You may also view this service information at the FAA contact information under *Material Incorporated by Reference* above.

**FOR FURTHER INFORMATION CONTACT:** Kevin Kung, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone (781) 238-7244; email [9-AVS-AIR-BACO-COS@faa.gov](mailto:9-AVS-AIR-BACO-COS@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Background**

EASA, which is the Technical Agent for the Member States of the European Union, has issued a series of EASA ADs with the most recent being EASA AD 2023-0001, dated January 4, 2023 (EASA AD 2023-0001), to correct an unsafe condition on Airbus Helicopters Model SA 365 C1, SA 365 C2, SA 365 C3, and SA 365 N helicopters, all manufacturer serial numbers.

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to Airbus Helicopters Model SA-365C1, SA-365C2, and SA-365N helicopters. The NPRM published in the *Federal Register* on

September 1, 2023 (88 FR 60402). The NPRM was prompted by reports of damaged dual bearings that are installed on the TGB. The NPRM proposed to require repetitively inspecting the TGB magnetic plug for particles, analyzing any particles collected, taking corrective actions if necessary, and reporting certain information. The NPRM also proposed to allow installing an affected dual bearing on a helicopter if certain actions are accomplished, as specified in EASA AD 2023-0001.

The FAA is issuing this AD to inspect for particles in the TGB magnetic plug. The unsafe condition, if not addressed, could result in loss of yaw control and subsequent loss of control of the helicopter. See EASA AD 2023-0001 for additional background information.

### **Discussion of Final Airworthiness Directive**

#### **Comments**

The FAA received no comments on the NPRM or on the determination of the costs.

#### **Conclusion**

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 AD. The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these helicopters. Except for clarifying the conditions that could exist after performing a metallurgical analysis in paragraph (h)(17) of this AD and minor editorial changes, this AD is adopted as proposed in the NPRM.

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

EASA AD 2023-0001 requires continuing close monitoring for certain helicopters and analyzing any particles collected during required inspections, repetitively inspecting the magnetic plug of the TGB for particles, and corrective actions. Corrective actions include replacing or repairing an affected TGB; sending certain information and affected parts to the manufacturer; accomplishing a metallurgical analysis; and replacing an affected dual bearing and other affected parts.

Additionally, EASA AD 2023-0001 requires for certain helicopters with an affected dual bearing installed, performing a one-time inspection of the dual bearing.

EASA AD 2023-0001 allows a dual bearing part number (P/N) 360A33-4052-00 installed on a control rod of a TGB P/N 365A33-4000-00, 365A33-4000-01, 365A33-4000-02, or 365A33-5000-00 to be installed on an aircraft, if certain requirements are met.

This material 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 Airbus Helicopters Alert Service Bulletin (ASB) No. AS365-05.00.83 and Airbus Helicopters ASB No. SA365-05.35, both Revision 0, and both dated February 7, 2022. This service information specifies procedures to inspect the magnetic plug of the TGB for particles; analyze and define the particles collected; replace an affected TGB and an affected dual bearing; perform a metallurgical analysis; and report certain information to the manufacturer.

The FAA also reviewed Airbus Helicopters ASB No. AS365-65.00.20 Revision 0, dated November 23, 2022. This service information specifies procedures for a one-time inspection of a certain dual bearing and replacement of the dual bearing if any particles are found.

Additionally, the FAA reviewed Airbus Standard Practices Manual, 20-08-01-601, Periodical monitoring of lubricating oil checking elements, dated July 7, 2020. This service information specifies procedures for analyzing collected particles.

### **Interim Action**

The FAA considers this AD to be an interim action. If final action is later identified, the FAA might consider further rulemaking then.

### **Differences Between this AD and the EASA AD**

EASA AD 2023-0001 applies to Airbus Helicopters Model SA 365 C3 helicopters, whereas this AD does not because that model is not FAA type-certificated.

This AD clarifies that Model SA-365N helicopters with an affected dual bearing

installed that has an unknown total number of hours time-in-service accumulated on the dual bearing are subject to certain requirements in this AD, whereas EASA AD 2023-0001 is unclear about those parts with an accumulated usage that cannot be determined.

EASA AD 2023-0001 does not clarify what is considered an anomaly regarding the chip detector and conical housing chip detector; whereas, for this AD, an anomaly may be indicated by the magnetic component of the TGB chip detector or the conical housing chip detector not being magnetized. EASA AD 2023-0001 also does not clarify what is considered good condition regarding the chip detector or conical housing chip detector; whereas, for this AD, good condition for the chip detector is indicated when there are no signs of wear on the locking systems (including wear on the bayonets and slotted tubes) and good condition for the conical housing chip detector is when the conical housing chip detector is magnetized.

Where EASA AD 2023-0001 describes a doubt concerning the physical characteristics of any collected particles, this AD requires performing a metallurgical analysis. If there is any doubt remaining after performing the metallurgical analysis, EASA AD 2023-0001 requires contacting Airbus, whereas this AD requires removing an affected TGB from service and replacing it with an airworthy part, or repairing the TGB in accordance with a method approved by the FAA, EASA, or Airbus Helicopters' Design Organizational Approval (DOA) if the type, size, or classification of any collected particle cannot be determined after performing a metallurgical analysis.

If any particles (including abrasion-type particles) are found on the magnetic plug during any inspection that are outside the limits, EASA AD 2023-0001 requires replacing each affected dual bearing with a serviceable dual bearing, and replacing the TGB, whereas this AD requires removing each affected dual bearing and replacing with a serviceable dual bearing, or removing the TGB from service and replacing it with an airworthy TGB, or repairing the TGB in accordance with a method approved by the FAA, EASA, or Airbus Helicopters' DOA.

Service information referenced in EASA AD 2023-0001 permits a pilot to perform a magnetic plug check, whereas this AD does not.

Service information referenced in EASA AD 2023-0001 specifies sending

compliance forms, certain parts, and particles to the manufacturer, whereas this AD requires reporting certain information but does not require sending any parts or particles to the manufacturer.

### **Costs of Compliance**

The FAA estimates that this AD affects 1 helicopter of U.S. Registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this AD.

Inspecting the magnetic plug of the TGB for particles takes about 1 work-hour for an estimated cost of \$85 per inspection and up to \$85 for the U.S. fleet, per inspection cycle.

Inspecting a dual bearing takes about 16 work-hours for an estimated cost of \$1,360 per inspection and up to \$1,360 for the U.S. fleet. If required, replacing a dual bearing takes about 1 additional work-hour following the inspection and parts cost about \$6,678 for an estimated cost of \$6,763 per dual bearing replacement.

If required, analyzing collected particles takes about 1 work-hour for an estimated cost of \$85 per helicopter. If required, a metallurgical analysis takes about 1 work-hour for an estimated cost of \$85 per instance.

If required, replacing an O-ring takes about 1 work-hour and parts cost about \$100 for an estimated cost of \$185 per O-ring.

If required, replacing a TGB takes about 8 work-hours and parts cost about \$155,302 for an estimated cost of \$155,982 per replacement.

The FAA has received no definitive data for the repair cost of a TGB.

If required, reporting information to the manufacturer takes about 1 work-hour for an estimated cost of \$85 per instance.

### **Paperwork Reduction Act**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting

for this collection of information is estimated to take approximately 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

### **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**

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) 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 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:

**2023-22-14 Airbus Helicopters:** Amendment 39-22598; Docket No. FAA-2023-1720; Project Identifier MCAI-2023-00003-R.

#### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Airbus Helicopters Model SA-365C1, SA-365C2, and SA-365N helicopters, certificated in any category.

#### **(d) Subject**

Joint Aircraft Service Component (JASC) Code: 6520, Tail rotor gearbox.

#### **(e) Unsafe Condition**

This AD was prompted by reports of damaged control rod dual bearings (dual bearings) installed on the tail rotor gearbox (TGB). The FAA is issuing this AD to inspect for particles in the TGB magnetic plug. The unsafe condition, if not addressed, could result in loss of yaw control and subsequent loss of control of the helicopter.

#### **(f) Compliance**

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

### **(g) Requirements**

Except as specified in paragraph (h) of this AD: Comply with all required actions and compliance times specified in, and in accordance with, European Union Aviation Safety Agency (EASA) AD 2023-0001, dated January 4, 2023 (EASA AD 2023-0001).

### **(h) Exceptions to EASA AD 2023-0001**

(1) Where EASA AD 2023-0001 requires compliance in terms of flight hours, this AD requires using hours time-in-service.

(2) Where EASA AD 2023-0001 refers to the effective dates specified in paragraphs (h)(2)(i) and (ii) of this AD, this AD requires using the effective date of this AD.

(i) March 21, 2022 (the effective date of EASA AD 2022-0038, dated March 7, 2022).

(ii) The effective date of EASA AD 2023-0001.

(3) Where EASA AD 2023-0001 defines Groups, for Group 2, replace the text “SA 365 N helicopters with an affected part installed that has accumulated 500 flight hours (FH) or more since first installation on a helicopter,” with “SA-365N helicopters with an affected part installed that has accumulated 500 or more total hours time-in-service on the affected part or the total hours time-in-service on the affected part cannot be determined.”

(4) Where the service information referenced in EASA AD 2023-0001 permits a pilot to perform a check of the magnetic plug, this AD requires that action be performed by a person authorized under 14 CFR 43.3.

(5) Where Note 1 of EASA AD 2023-0001 specifies, “Helicopters that were under close monitoring on March 21 2022 (the effective date of EASA AD 2022-0038) must continue the close monitoring procedure up to the first inspection accomplished in accordance with the instructions of ASB 1;” for this AD, replace that text with, “Helicopters that are under close monitoring as of the effective date of this AD must continue close monitoring until the first instance of the requirements in paragraph (1) of EASA AD 2023-0001 are completed.”

(6) Where EASA AD 2023-0001 requires replacing the TGB and the service

information referenced in EASA AD 2023-0001 specifies replacing the TGB, for this AD, before further flight, remove the TGB from service and replace it with an airworthy part, or repair the TGB in accordance with a method approved by the Manager, Europe Middle East & Africa Section, International Validation Branch, FAA; EASA; or Airbus Helicopters' Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(7) Where paragraphs (5) and (6) of EASA AD 2023-0001 require replacing an affected part, as defined in EASA AD 2023-0001, with a serviceable part, as defined in EASA AD 2023-0001; for this AD, remove the affected part, as defined in EASA AD 2023-0001, from service and replace it with a serviceable part, as defined in EASA AD 2023-0001.

(8) Where paragraph (5) of EASA AD 2023-0001 does not specify a compliance time; for this AD, the compliance time for those actions is before further flight.

(9) Where the service information (including any work card) referenced in EASA AD 2023-0001 specifies to do the actions identified in paragraphs (h)(9)(i) and (ii) of this AD, this AD does not include those requirements.

(i) Comply with paragraph 2.D., except this AD requires reporting information, including the information in Appendix 4. of the service information, in accordance with paragraph (h)(18) of this AD.

(ii) Send parts and particles to Airbus Helicopters.

(10) Where the service information (including any work card) referenced in EASA AD 2023-0001 specifies replacing the chip detector or conical housing chip detector if there is an anomaly; for this AD, an anomaly may be indicated by the magnetic component of the TGB chip detector or the conical housing chip detector not being magnetized. If there is an anomaly, this AD requires before further flight, removing from service the TGB chip detector or the conical housing chip detector, as applicable to your model helicopter.

(11) Where the service information (including any work card) referenced in EASA AD 2023-0001 specifies making sure that the chip detector or conical housing chip detector is in good condition; for this AD, good condition for the chip detector is

indicated when there are no signs of wear on the locking systems (including wear on the bayonets and slotted tubes). If there are any signs of wear on the locking systems, this AD requires, before further flight, removing the TGB chip detector from service. Good condition for the conical housing chip detector is when the conical housing chip detector is magnetized. If the conical housing chip detector is not magnetized, this AD requires, before further flight, removing the conical housing chip detector from service.

(12) Where the service information (including any work card) referenced in EASA AD 2023-0001 specifies replacing the O-rings if necessary; this AD requires, before further flight, removing any affected O-ring from service and replacing it with an airworthy O-ring.

(13) Where the service information (including any work card) referenced in EASA AD 2023-0001 specifies removing an affected TGB, returning it to an approved workshop, including sending all the particles found in the affected part; this AD requires, before further flight, removing an affected TGB from service and replacing it with an airworthy part, or repairing the TGB in accordance with a method approved by the Manager, Europe Middle East & Africa Section, International Validation Branch, FAA; EASA; or Airbus Helicopters' DOA. If approved by the DOA, the approval must include the DOA-authorized signature. You are not required to send the particles found in the TGB to Airbus Helicopters or send an affected TGB to an approved workshop.

(14) Where the service information (including any work card) referenced in EASA AD 2023-0001 specifies to use tooling, this AD allows the use of equivalent tooling.

(15) Where the service information (including any work card) referenced in EASA AD 2023-0001 specifies discarding certain parts, this AD requires removing those parts from service.

(16) Where the service information (including any work card) referenced in EASA AD 2023-0001 specifies performing a metallurgical analysis of particles if there is a doubt concerning the type, size, or classification of any collected particle, this AD requires, before further flight, performing a metallurgical analysis if the type, size, or classification of any collected particle cannot be determined.

(17) Where the service information (including any work card) referenced in EASA AD 2023-0001 specifies if there is any doubt remaining (pertaining to particle classification) after performing a metallurgical analysis, contact Airbus, this AD requires, if the type, size, or classification of any collected particle cannot be determined after performing a metallurgical analysis, before further flight, removing an affected TGB from service and replacing it with an airworthy part, or repairing the TGB in accordance with a method approved by the Manager, Europe Middle East & Africa Section, International Validation Branch, FAA; EASA; or Airbus Helicopters' DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

(18) Where the service information referenced in EASA AD 2023-0001 requires reporting inspection results, including Appendix 4.A., to Airbus Helicopters, if any M50 particles are found, this AD requires reporting those inspection results along with a detailed description of any information and findings, and if possible, provide photos, at the applicable time in paragraph (h)(18)(i) or (ii) of this AD.

(i) If the inspection was done on or after the effective date of this AD: Submit the report within 10 days after accomplishing the metallurgical analysis.

(ii) If the inspection was done before the effective date of this AD: Submit the report within 10 days after the effective date of this AD.

(19) This AD does not adopt the “Remarks” section of EASA AD 2023-0001.

**(i) Special Flight Permits**

Special flight permits may be issued in accordance with 14 CFR 21.197 and 21.199, provided no passengers are onboard.

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

(1) The Manager, International Validation 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 International Validation Branch, send it to the attention of the person identified in paragraph (k) of this 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.

**(k) Related Information**

For more information about this AD, contact Kevin Kung, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone (781) 238-7244; email 9-AVS-AIR-BACO-COS@faa.gov.

**(l) 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 this AD specifies otherwise.

(i) European Union Aviation Safety Agency (EASA) AD 2023-0001, dated January 4, 2023.

(ii) [Reserved]

(3) For EASA AD 2023-0001, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email ADs@easa.europa.eu; Internet easa.europa.eu. You may find the EASA material on the EASA website ad.easa.europa.eu.

(4) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Parkway, 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 material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit [www.archives.gov/federal-register/cfr/ibr-locations](http://www.archives.gov/federal-register/cfr/ibr-locations) or email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov).

Issued on October 30, 2023.

Victor Wicklund,  
Deputy Director, Compliance & Airworthiness Division,  
Aircraft Certification Service.

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