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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-0135; Project Identifier MCAI-2020-01044-R; Amendment 39-21554; AD 2021-10-21]

RIN 2120-AA64

Airworthiness Directives; Airbus Helicopters Deutschland GmbH

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 2019-07-07 for various Airbus Helicopters Deutschland GmbH (Airbus Helicopters) Model MBB-BK117 and Model BO-105 helicopters. AD 2019-07-07 required removing certain part numbered swashplate bellows (bellows) from service, cleaning and inspecting certain parts, and depending on the inspection results removing certain parts from service, applying torque, and repetitively inspecting the swashplate assembly (swashplate). This AD retains certain requirements of AD 2019-07-07, expands the installation prohibition, adds additional inspections, and updates the applicable service information. The FAA is issuing this AD to address an unsafe condition on these products.

DATES: This AD is effective July 7, 2021.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of July 7, 2021.

ADDRESSES: For service information identified in this final rule, contact Airbus Helicopters, 2701 N 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 service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For more information on the availability of this material at the FAA, call (817) 222-5110. It is also available on the internet at https://www.regulations.gov by searching for and locating Docket No. FAA-2021-0135.

Examining the AD Docket

You may examine the AD docket on the internet at https://www.regulations.gov in Docket No. FAA-2021-0135; 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 AD, the European Aviation Safety Agency (now European Union Aviation Safety Agency) (EASA) AD, any service information that is incorporated by reference, any comments received, and other information. The street 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.

FOR FURTHER INFORMATION CONTACT: Matt Fuller, AD Program Manager, Operational Safety Branch, Airworthiness Products Section, General Aviation & Rotorcraft Unit, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-5110; email Matthew.Fuller@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2019-07-07, Amendment 39-19618 (84 FR 16394, April 19, 2019) (AD 2019-07-07). AD 2019-07-07 applied to Airbus Helicopters Model BO-105A, BO-105C, BO-105S, BO105LS A-3, MBB-BK 117A-1, MBB-BK 117A-3, MBB-BK 117A-4, MBB-BK 117B-1, MBB-BK 117B-2, MBB-BK 117C-1, MBB-BK 117C-2, and MBB-BK 117D-2 helicopters. The NPRM published in the Federal Register on March 10, 2021 (86 FR 13665). The NPRM proposed to require, within 50 hours time-in-service, removing the affected bellows from the swashplate, cleaning and inspecting the support tube for scratches, and depending on the inspection results reworking the cylindrical area. The NPRM proposed to require inspecting the clamp for corrosion, damage, and incorrect installation, and depending on the inspection results, removing the clamp from service or reinstalling the clamp correctly and applying a torque. The NPRM also proposed to require inspecting each ball bearing for corrosion, and depending on the inspection results, removing each ball bearing from service. The NPRM proposed to require inspecting the deflection ring for foreign objects by removing the lockwire, screws, and the outer deflection ring and removing any foreign objects.

Additionally, the NPRM proposed to require, within 400 hours TIS, inspecting the swashplate for foreign objects and excessive bearing rolling friction. Finally, the NPRM proposed to prohibit installing a bellows P/N 105-10113.05, P/N 4619305044, P/N 4638305043, or P/N B623M20X2240, or a gearbox with a bellows P/N 105-10113.05, P/N 4619305044, or P/N 4638305043 on any helicopter.

EASA AD 2016-0142, dated July 19, 2016, which was revised to EASA AD 2016-0142R1, dated April 12, 2018, issued by EASA, which is the Technical Agent for the Member States of the European Union, to correct an unsafe condition for Model MBB-BK117 A-1, MBB-BK117 A-3, MBB-BK117 A-4, MBB-BK117 B-1, MBB-BK117 B-2, MBB-BK117 C-1, MBB-BK117 C-2, and MBB-BK117 C-2e helicopters, all serial numbers (S/Ns), and Model BO105 A, BO105 C, BO105 D, BO105 S, and BO105 LS A-3 helicopters, all variants, all S/Ns. EASA advises of several reports of a lower clamp found missing from the bellows and damaging the swashplate bearing ring before becoming detached. EASA states that an investigation showed that over-torqueing can damage the clamp, which may have caused the clamp to become loose and detach. EASA further advises that this condition, if not addressed, could result a detached clamp, which could damage the swashplate and pitch link or strike the tail rotor, resulting in loss of control of the helicopter.

Accordingly, EASA AD 2016-0142R1 requires removing the bellows, and performing modifications, inspections, and corrective actions in accordance with the applicable service information for your helicopter. EASA AD 2016-0142R1 also prohibits the installation of certain part-numbered bellows or any gearbox with certain part-numbered bellows on any helicopter.

Discussion of Final Airworthiness Directive

Comments

The FAA received no comments on the NPRM or 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 of 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.

Related Service Information Under 1 CFR Part 51

The FAA reviewed Airbus Helicopters Alert Service Bulletin ASB (ASB) BO105-40A-107 for Model BO105C-series, D-series and S-series helicopters; ASB BO105 LS-40A-12 for Model BO-105LS A-3 helicopters; ASB MBB-BK117-40A-115 for Model MBB-BK 117 A-1, MBB-BK 117 A-3, MBB-BK 117 A-4, MBB-BK 117 B-1, MBB-BK 117 B-2, and MBB-BK 117 C-1 helicopters; and ASB MBB-BK117 C-2-62A-007 for Model MBB-BK 117 C-2 helicopters, each Revision 5 and dated July 25, 2017. The FAA also reviewed Airbus Helicopters ASB MBB-BK117 D-2-62A-003, Revision 3, dated July 25, 2017, for Model MBB-BK 117 D-2 helicopters. This service information specifies removing the bellows and repetitively inspecting the swashplate.

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 EASA AD

The EASA AD requires compliance within different time intervals for some actions than what this AD requires. The EASA AD allows a non-cumulative tolerance of 10 percent that may be applied to the compliance times, and this AD does not. This AD applies to Model MBB-BK 117D-2 helicopters while the EASA AD does not. The EASA AD applies to Model BO-105D helicopters, while this AD does not. The EASA AD requires reporting corrosion to Airbus Helicopters while this AD does not.

Costs of Compliance

The FAA estimates that this AD affects 211 helicopters of U.S. Registry. Labor rates are estimated at $85 per work-hour. Based on these numbers, the FAA estimates that operators may incur the following costs in order to comply with this AD.

Inspecting the swashplate assembly takes about 3 work-hours for an estimated cost of $255 per helicopter and $53,805 for the U.S. fleet per inspection cycle.

Repairing a scratched support tube takes about 3 work-hours for an estimated cost of $255 per helicopter.

Replacing a corroded or damaged clamp takes about 2 work-hours and parts cost about $8 for a cost of $178 per helicopter.

Replacing corroded ball bearings takes about 4 work-hours and parts cost about $3,000 for a cost of $3,340 per helicopter.

Removing foreign objects from the outer deflection ring takes about 2 work-hours for an estimated cost of $170 per helicopter.

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

The FAA has 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 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.

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:

a. Removing Airworthiness Directive (AD) 2019-07-07, Amendment 39-19618 (84 FR 16394, April 19, 2019); and

b. Adding the following new AD:

2021-10-21 Airbus Helicopters Deutschland GmbH: Amendment 39-21554; Docket No. FAA-2021-0135; Project Identifier MCAI-2020-01044-R.

(a) Effective Date

This airworthiness directive (AD) is effective July 7, 2021.

(b) Affected ADs

This AD replaces AD 2019-07-07, Amendment 39-19618 (84 FR 16394, April 19, 2019) (2019-07-07).

(c) Applicability

This AD applies to Airbus Helicopters Deutschland GmbH Model BO-105A, BO-105C, BO-105S, BO105LS A-3, MBB-BK 117A-1, MBB-BK 117A-3, MBB-BK 117A-4, MBB-BK 117B-1, MBB-BK 117B-2, MBB-BK 117C-1, MBB-BK 117C-2, and MBB-BK 117D-2 helicopters, certificated in any category.

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by a lower clamp found missing from the swashplate bellows (bellows) and damaging the swashplate bearing ring before becoming detached. The FAA is issuing this AD to prevent a loose bellows clamp. The unsafe condition, if not addressed, could result in loss of the bellows, contact of the bellows with the main rotor blades, main rotor mast, and tail rotor, and subsequent loss of helicopter control.

(f) Compliance

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

(g) Required Actions

(1) Within 50 hours time-in-service (TIS) after the effective date of this AD:

(i) Remove from service bellows part number (P/N) 105-10113.05, P/N 4638305043, P/N 4619305044, or P/N B623M20X2240 from the swashplate assembly (swashplate).

(ii) Clean and inspect the support tube for scratches as depicted in Detail 11, Figure 6 of Airbus Helicopters Alert Service Bulletin ASB (ASB) BO105-40A-107 (ASB BO105-40A-107); or Detail 11, Figure 5 of ASB BO105 LS-40A-12 (ASB BO105 LS 40A-12); or Detail 11, Figure 5 of ASB MBB-BK117-40A-115, (ASB MBB-BK117-40A-115); or Detail 11, Figure 5 of ASB MBB-BK117

C-2-62A-007 (ASB MBB-BK117 C-2-62A-007), each Revision 5 and dated July 25, 2017; or Detail 11, Figure 5 of ASB MBB-BK117 D-2-62A-003, Revision 3, dated July 25, 2017 (ASB MBB-BK117 D-2-62A-003); as applicable to your model helicopter. If there are scratches on the support tube, before further flight, rework the cylindrical area to a max depth of 0.1 mm with a polishing cloth #400 or equivalent polishing cloth. The reworked area must not exceed 10 mm in width or 3 cm\2\ in area, the minimum separation between any adjacent reworked areas must be 30 mm, and total reworked areas must not exceed 10 percent of the cylindrical area.

(iii) Inspect the clamp for corrosion and correct installation.

Note 1 to paragraph (g)(1)(iii): A figure of the clamp is depicted in Detail 9, Figure 6 of ASB BO105-40A-107; or Detail 9, Figure 5 of ASB BO105 LS-40A-12, ASB MBB-BK117-40A-115, or ASB MBB-BK117 C-2-62A-007; or Detail 9, Figure 5 of ASB MBB-BK117 D-2-62A-003; as applicable to your model helicopter.

(A) If there is corrosion on the clamp, before further flight remove the clamp from service.

(B) If the clamp is incorrectly installed, before further flight install the clamp correctly on the shield as depicted in Detail 10, Figure 6 of ASB BO105-40A-107; or Detail 10, Figure 5 of ASB BO105 LS-40A-12, ASB MBB-BK117-40A-115, or ASB MBB-BK117 C-2-62A-007; or Detail 10, Figure 5 of ASB MBB-BK117 D-2-62A-003; as applicable to your model helicopter.

(C) Apply a torque between 0.5 Nm and 0.7 Nm to the screw and install lockwire as depicted in Detail 8, Figure 6 of ASB BO105-40A-107; or Detail 8, Figure 5 of ASB BO105 LS-40A-12, ASB MBB-BK117-40A-115, or ASB MBB-BK117 C-2-62A-007; or Detail 8, Figure 5 of ASB MBB-BK117 D-2-62A-003; as applicable to your model helicopter.

(iv) Inspect each ball bearing for corrosion. If there is corrosion on any ball bearing, before further flight, remove the ball bearing from service.

(v) Inspect the area under the deflection ring for foreign objects by removing the lock wire, removing the screws, and removing the outer deflection ring. If there are any foreign objects, remove the foreign objects with a lint-free cloth.

(2) Within 400 hours TIS after the effective date of this AD, after complying with the actions in paragraph (g)(1) of this AD, and thereafter at intervals not to exceed 400 hours TIS, inspect the swashplate by following the Accomplishment Instructions, paragraph 3.B.4 of ASB BO105-40A-107; or paragraph 3.B.3 of ASB BO105 LS-40A-12, ASB MBB-BK117-40A-115, ASB MBB-BK117 C-2-62A-007, or ASB MBB-BK117 D-2-62A-003; as applicable to your model helicopter.

(3) After May 24, 2019 (the effective date of AD 2019-07-07), do not install a bellows P/N 105-10113.05, P/N 4619305044, or P/N 4638305043, or a gearbox with a bellows P/N 105-10113.05, P/N 4619305044, or P/N 4638305043 on any helicopter.

(4) As of the effective date of this AD, do not install a bellows P/N B623M20X2240 on any helicopter.

(h) 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 (i)(1) 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.

(i) Related Information

(1) For more information about this AD, contact Matt Fuller, AD Program Manager, Operational Safety Branch, Airworthiness Products Section, General Aviation & Rotorcraft Unit, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-5110; email 9-AVS-AIR-730-AMOC@faa.gov.

(2) The subject of this AD is addressed in European Aviation Safety Agency (now European Union Aviation Safety Agency) (EASA) AD 2016-0142R1, dated April 12, 2018. You may view the EASA AD on the internet at https://www.regulations.gov in Docket No. FAA-2021-0135.

(j) 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) Airbus Helicopters Alert Service Bulletin ASB (ASB) BO105-40A-107, Revision 5, dated July 25, 2017.

(ii) Airbus Helicopters ASB BO105 LS-40A-12, Revision 5, dated July 25, 2017.

(iii) Airbus Helicopters ASB MBB-BK117-40A-115, Revision 5, dated July 25, 2017.

(iv) Airbus Helicopters ASB MBB-BK117 C-2-62A-007, Revision 5, dated July 25, 2017.

(v) Airbus Helicopters ASB MBB-BK117 D-2-62A-003, Revision 3, dated July 25, 2017.

(3) For service information identified in this AD, contact Airbus Helicopters, 2701 N 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.

(4) You may view this 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.

(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, email fedreg.legal@nara.gov, or go to: https://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on Issued on May 5, 2021.

Lance T. Gant,

Director, Compliance & Airworthiness Division, Aircraft Certification Service.

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