



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2021-0135; Project Identifier MCAI-2020-01044-R]

RIN 2120-AA64

#### Airworthiness Directives; Airbus Helicopters Deutschland GmbH Helicopters

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

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to supersede 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 requires 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). AD 2019-07-07 also prohibits the installation of certain part-numbered bellows. This proposed AD would retain certain requirements of AD 2019-07-07, expand the installation prohibition, add additional inspections, and update the applicable service information. The actions of this proposed AD are intended to address an unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by [INSERT DATE 45 days AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Docket: Go to <https://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 <https://www.regulations.gov> by searching for and locating 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 proposed AD, the European Aviation Safety Agency (now European Union Aviation Safety Aviation) (EASA) AD, any comments received and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed 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 referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177.

**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:**

### **Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2021-0135; Project Identifier MCAI-2020-01044-R” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this proposal.

### **Confidential Business Information**

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to 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. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

### **Discussion**

The FAA issued AD 2019-07-07, Amendment 39-19618 (84 FR 16394, April 19, 2019) (AD 2019-07-07) for Airbus Helicopters Model BO-105A, BO-105C, BO-105S, BO-105LS 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. AD 2019-07-07 requires a one-time inspection of the swashplate with the bellows removed and thereafter, a repetitive inspection of the swashplate. AD 2019-07-07 also prohibits the installation of certain part-numbered bellows and gearboxes with certain part-numbered bellows.

AD 2019-07-07 was prompted by EASA AD No. 2016-0142, dated July 19, 2016, which was revised to EASA AD No. 2016-0142R1, dated April 12, 2018, issued by EASA, which is the Technical Agent for the Member States of the European Union. 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 an investigation showed that over-torquing can damage the clamp, which may have caused the clamp to become loose and detach. According to EASA, this condition, if not detected and corrected, could lead to loss of a swashplate clamp, and a detached clamp could damage the swashplate and pitch link or strike the tail rotor, resulting in loss of control of the helicopter.

### **Actions Since AD 2019-07-07 Was Issued**

Since the FAA issued AD 2019-07-07, it was identified that bellows (part number) P/N B623M20X220 was inadvertently omitted from the prohibition in the Required Actions paragraph. It was also identified that Airbus Helicopters updated its service information by issuing several alert service bulletins which specified removing the bellows and repetitively inspecting the swashplate. Accordingly, this proposed AD would update the service information and any incorporated by reference information, add to the inspection requirements of AD 2019-07-07, and prohibit installation of bellows P/N B623M20X220.

#### **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 AD. The FAA is proposing this AD after evaluating all known relevant information and determining that an unsafe condition is likely to exist or develop on other helicopters of the same type designs.

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

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

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

The FAA reviewed Airbus Helicopters Alert Service Bulletin (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.

## **Proposed AD Requirements**

This proposed AD would require the following within 50 hours time-in-service (TIS):

- 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;
- Inspecting the clamp for corrosion, damage and incorrect installation, and, depending on the inspection results, removing the clamp from service, reinstalling the clamp correctly and applying a torque;
- Inspecting each ball bearing for corrosion, and depending on the inspection results, removing each ball bearing from service; and
- Inspecting the deflection ring for foreign objects by removing the lockwire, screws, and the outer deflection ring and removing any foreign objects;

The proposed AD would also require, within 400 hours TIS, inspecting the swashplate for foreign objects and excessive bearing rolling friction. Finally, this proposed AD would 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.

### **Costs of Compliance**

The FAA estimates that this proposed AD would affect 211 helicopters of U.S. Registry. The FAA estimates that operators may incur the following costs in order to comply with this proposed AD. Labor costs are estimated at \$85 per work-hour.

Inspecting the swashplate assembly would take 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 would take about 3 work-hours for an estimated cost of \$255 per helicopter.

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

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

Removing foreign objects from the outer deflection ring would take 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 determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 this proposed regulation:

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 Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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:

**Airbus Helicopters Deutschland GmbH:** Docket No. FAA-2021-0135; Project Identifier MCAI-2020-01044-R.

**(a) Applicability**

This airworthiness directive (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.

Note 1 to paragraph (a) of this AD: Helicopters with an MBB-BK 117C-2e designation are Model MBB-BK 117C-2 helicopters.

**(b) Unsafe Condition**

This AD defines the unsafe condition as a loose swashplate bellows (bellows) clamp. This condition can cause 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.

**(c) Affected ADs**

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

**(d) Comments Due Date**

The FAA must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(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) 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) 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<sup>2</sup> 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 (f)(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 (f)(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.

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

(1) The Manager, Strategic Policy Rotorcraft Section, 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: 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) 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.

**(h) Additional Information**

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

**(i) Subject**

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

Issued on March 2, 2021.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

[FR Doc. 2021-04804 Filed: 3/9/2021 8:45 am; Publication Date: 3/10/2021]