



## Airworthiness Directive

**AD No.:** 2016-0142R1

**Issued:** 12 April 2018

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [Regulation (EU) 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [Regulation (EC) 216/2008, Article 14(4) exemption].

### Design Approval Holder's Name:

AIRBUS HELICOPTERS DEUTSCHLAND GmbH

### Type/Model designation(s):

MBB-BK 117 and BO105 helicopters

**Effective Date:** Revision 1: 12 April 2018  
Original issue: 02 August 2016

**TCDS Number(s):** EASA.R.010 and EASA.R.011

**Foreign AD:** Not applicable

**Revision:** This AD revises EASA AD 2016-0142 dated 19 July 2016, which superseded EASA AD 2016-0060 dated 23 March 2016.

## ATA 62 – Main Rotor – Swashplate Assembly – Replacement / Inspection

### Manufacturer(s):

Airbus Helicopters Deutschland GmbH (AHD) (formerly Eurocopter Deutschland GmbH, Eurocopter Hubschrauber GmbH, Messerschmitt-Bölkow-Blohm GmbH), Airbus Helicopters Inc. (formerly American Eurocopter LLC), Eurocopter Canada Ltd (formerly Messerschmitt-Bölkow-Blohm Helicopter Canada Ltd)

### Applicability:

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/n), and

BO105 A, BO105 C, BO105 D, BO105 S and BO105 LS A-3 (see Note 1 of this AD) helicopters, all variants, all s/n.

Note 1: BO105 LS A-3 helicopters, modified in accordance with EASA Supplemental Type Certificate (STC) 10039633, or previously by LBA STC EMZ NR. 0654/3058 (so called "Superlifter"), are affected by this AD.

### Definitions:

For the purpose of this AD, the following definitions apply:



**Affected clamp:** Swashplate bellows clamp identified by Part Number (P/N) MBB100-W3-5, P/N MBB270-W3-5, P/N NSA5528-100 or P/N NSA5528-250.

**New bellows:** Swashplate bellows identified by P/N 623M20X2240.

**Periodical inspection:** Repetitive aircraft inspection as defined in the applicable Aircraft Maintenance Manual (AMM).

**Tolerance:** A tolerance of 10% may be applied to the compliance times specified in this AD to allow synchronization of the required inspections with other maintenance tasks for which a non-cumulative tolerance is already granted in the applicable AMM.

**The ASBs:** Alert Service Bulletin (ASB) MBB-BK117-40A-115, ASB MBB-BK117 C-2-62A-007, ASB BO105-40A-107 and ASB BO105LS-40A-12.

**The applicable ASBs:** The ASBs, at Revision 4 or later, and ASB BO105 LS A-3-STC-0654/3058-40A-2 at Revision 1 or later.

**Groups:** Group 1 helicopters are those that have a swashplate bellows installed, having a P/N listed in Appendix 1 of this AD. Group 2 helicopters are those that do not have a swashplate bellows installed, having a P/N listed in Appendix 1 of this AD.

#### Reason:

During a post-flight check on a BO105 helicopter, it was detected that the lower clamp installed on the swashplate bellows was missing. Prior to this, the loose clamp had caused damage to the swashplate bearing ring. Similar cases had already been reported in the past. Investigation showed that over-torqueing can cause damage to the clamp, which may have contributed to the loosening and subsequent loss of the clamp.

This condition, if not detected and corrected, could lead to further cases of lost swashplate clamps, possibly resulting in loss of control of the helicopter.

To address this unsafe condition, AHD issued the ASBs and ASB BO105 LS A-3-STC-0654/3058-40A-2, which were revised several times, and EASA issued AD 2014-0180, AD 2015-0166, AD 2016-0060 and AD 2016-0142, each one superseding the previous, providing instructions for modification of the swashplate assembly and repetitive inspections.

Since EASA AD 2016-0142 was issued, it has been determined that the repetitive inspections are no longer required to address the unsafe condition. The 400 flight hours (FH) repetitive inspections are now recommended, and it is expected that they will be included in Chapter 05 of the AMM; the 100 FH repetitive inspections have been deleted. Airbus Helicopters (AH) revised accordingly the applicable ASBs.

For the reasons described above, this AD is revised to delete the requirements for repetitive inspections of the swashplate assembly, and to remove other modification requirements which are to date obsolete and superseded by latest requirements.



This AD also includes editorial changes, simplifying the Reason section and introducing the section Definitions, at the same time removing certain Notes from the Required Action(s) and Compliance Time(s) section. These changes do not affect the required actions, nor do they change the compliance times.

**Required Action(s) and Compliance Time(s):**

Required as indicated, unless accomplished previously:

(1) DELETED

**Part(s) Installation:**

(2) From the effective date of this revised AD, do not install on any helicopter an affected clamp, or any gearbox or swashplate equipped with an affected clamp.

(3) DELETED

(4) DELETED

**Modification:**

(5) Within 50 FH, or during the next periodical inspection, whichever occurs first after 25 August 2015 [the effective date of EASA AD 2015-0166], or, for a helicopter equipped with new bellows, within 400 FH after 02 August 2016 [the effective date of the original issue of this AD], remove the swashplate bellows and perform inspections in accordance with the instructions of section 3.B.1 of the applicable ASBs.

**Credit:**

(6) For a helicopter not equipped with new bellows, modification and inspection in accordance with the instructions of section 3.B.1 of the ASBs at Revision 2 is acceptable to comply with the requirements of paragraph (5) of this AD.

(7) DELETED

(8) DELETED

(9) DELETED

(10) DELETED

(11) DELETED

(12) DELETED

**Corrective Actions:**

(13) If, during the inspection as required by paragraph (5) of this AD, discrepancies are found, before next flight, accomplish the applicable corrective action(s) in accordance with the instructions of the applicable ASBs.



**Credit:**

(14) Corrective actions accomplished on a helicopter before 02 August 2016 [the effective date of the original issue of this AD] in accordance with the instructions of the ASBs at Revision 2 are acceptable to comply with the requirement of paragraph (13) of this AD for that helicopter.

**Part(s) Installation:**

(15) From 25 August 2015 [the effective date of EASA AD 2015-0166], do not install on any helicopter a swashplate bellows P/N 105-10113.05 or P/N 4638305043.

(16) Do not install on any helicopter swashplate bellows having a P/N listed in Appendix 1 of this AD, or any gearbox equipped with swashplate bellows having a P/N listed in Appendix 1 of this AD, as required by paragraph (16.1) or (16.2) of this AD, as applicable.

(16.1) Group 1 helicopters: After modification of that helicopter as required by paragraph (5) of this AD.

(16.2) Group 2 helicopters: From 02 August 2016 [the effective date of the original issue of this AD].

**Ref. Publications:**

AHD ASB MBB-BK117-40A-115 original issue dated 31 March 2014, or Revision 1 dated 04 August 2014, or Revision 2 dated 30 July 2015, or Revision 3 dated 08 February 2016, or Revision 4 dated 23 May 2016, or AH ASB MBB-BK117-40A-115 Revision 5 dated 25 July 2017 (including correction dated 02 February 2018).

AHD ASB MBB-BK117 C-2-62A-007 original issue dated 31 March 2014, or Revision 1 dated 04 August 2014, or Revision 2 dated 30 July 2015, or Revision 3 dated 08 February 2016, or Revision 4 dated 23 May 2016, or AH ASB MBB-BK117 C-2-62A-007 Revision 5 dated 25 July 2017 (including correction dated 02 February 2018).

AHD ASB BO105-40A-107 original issue dated 31 March 2014, or Revision 1 dated 08 September 2014, or Revision 2 dated 30 July 2015, or Revision 3 dated 08 February 2016, or Revision 4 dated 23 May 2016, or AH ASB BO105-40A-107 Revision 5 dated 25 July 2017 (including correction dated 02 February 2018).

AHD ASB BO105LS-40A-12 original issue dated 31 March 2014, or Revision 1 dated 08 September 2014, or Revision 2 dated 30 July 2015, or Revision 3 dated 08 February 2016, or Revision 4 dated 23 May 2016 or AH ASB BO105LS-40A-12 Revision 5 dated 25 July 2017 (including correction dated 02 February 2018).

AHD ASB BO105 LS A-3-STC-0654/3058-40A-2 original issue dated 08 February 2016, or Revision 1 dated 23 May 2016, or AH ASB BO105 LS A-3-STC-0654/3058-40A-2 Revision 2 dated 25 July 2017 (including correction dated 02 February 2018).

The use of later approved revisions of the above-mentioned documents is acceptable for compliance with the requirements of this AD.



**Remarks:**

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.
2. The original issue of this AD was posted on 17 June 2016 as PAD 16-090 for consultation until 15 July 2016. No comments were received during the consultation period.
3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).
4. For any question concerning the technical content of the requirements in this AD, please contact: Airbus Helicopters Deutschland GmbH, Industriestrasse 4, 86607 Donauwörth, Federal Republic of Germany  
Telephone: + 49 (0)151 1422 8976; Facsimile: + 49 (0)906 71 4111.  
Web portal: <https://keycopter.airbushelicopters.com> > Technical Request Management  
E-mail: [customersupport.helicopters@airbus.com](mailto:customersupport.helicopters@airbus.com).



## Appendix 1 – Parts not to be installed on Post-mod Helicopters

Helicopter Models (Variants)	Component	P/N
BO105 LS A-3	Swashplate Bellows	105-10113.05
		4638305043
		B623M20X2240
STC-modified BO105 LS A-3 (Superlifter)	Swashplate Bellows	105-10113.05
		4638305043
		B623M20X2240
BO105 A, BO105 C (C23, CB, CB-4, CB-5), BO105 D (D, DS, DB, DBS, DB-4, DBS-4, DBS-5), and BO105 S (CS, CBS, CBS-4, CBS-5)	Swashplate Bellows	105-10113.05
		4638305043
		4619305044
		B623M20X2240
BK117, A-1, A-3, A-4, B-1, B-2 and C-1	Swashplate Bellows	105-10113.05
		4638305043
		B623M20X2240
BK117 C-2 and C-2e	Swashplate Bellows	105-10113.05
		4638305043
		B623M20X2240

