



## Airworthiness Directive

**D-1994-280R3**

## Luftfahrt-Bundesamt

Airworthiness Directive Section  
Hermann-Blenk-Str. 26  
38108 Braunschweig  
G E R M A N Y

*This Airworthiness Directive supersedes the LBA-AD D-1994-280, Revision 2, of 14 December 1994*

### EUROCOPTER DEUTSCHLAND

Effective Date: 23 September 2005

#### **Affected:**

Kind of aeronautical product: Helicopter  
Manufacturer: Eurocopter Deutschland GmbH, Donauwörth, Germany  
Type: BK117  
Models affected: BK117A-1, A-3, A-4, B-1, B-2 and C-1  
Serial Numbers affected: All  
German Type Certificate No.: 3049

#### **Subject:**

Detachment of main rotor balance weights in flight.

#### **Reason:**

There have been reports of two flight incidents whereby, in each case, a balance weight detached itself from the main rotor blade structure and was swept past the blade trailing edge. Although the rotor imbalance created by such an incident does not degrade the structural integrity, it does cause very severe vibrations. The centrifugal force on the blades can bring about creep deformation of the lead balance weight which in turn causes bulging of the upper and lower blade skin. The height of such bulges is the criteria for assessing the extent of possible damage to the structure around the lead balance weight and consequently, the possibility of an impending failure.

The respective actions in terms of inspections and procedures are incorporated in the MBB-BK117 Maintenance Manual since revision no. 24 (for MBB-BK117 A-1 thru B-2) and revision no. 5 (for MBB-BK117 C-1).

The actions specified by this airworthiness directive are intended to prevent balance weight detachment in flight which could result in severe vibrations and reduced controllability of the helicopter.

#### **Action:**

The following actions are required by this airworthiness directive:

1. Revision of the MBB-BK117 Maintenance Manual, so that the manual contains at least revision no. 24 (for MBB-BK117 A-1 thru B-2) and respectively revision no. 5 (for MBB-BK117 C-1) issued by the manufacturer.
2. Inspection of upper and lower surfaces of the main rotor blades for bulging in the area of the outboard lead balance weight in accordance with the relevant MBB-BK117 Maintenance Manual.
3. If the inspection results are outside of the allowable limits mentioned in the MBB-BK117 Maintenance Manual, the ECD Customer Service must be consulted for advice how to proceed.

#### **Compliance:**

For the actions mentioned above the following compliance times are required:

Action 1: Immediately after the effective date of this airworthiness directive.

Action 2: In compliance with the applicable MBB-BK117 Maintenance Manual.

Action 3: Before further flights if such damages have been detected during the inspection.

#### **Technical publication of the manufacturer:**

Eurocopter Deutschland Alert Service Bulletin ASB-MBB-BK 117-10-108, Revision 2, of 2 September 2005. This Service Bulletin becomes herewith part of this AD and can be obtained from:

EUROCOPTER DEUTSCHLAND GmbH  
Customer Service  
Industriestraße 4  
86607 Donauwörth  
G E R M A N Y  
Fax +49 (0) 90671-4111

#### **EASA-Approval**

Approved by the European Aviation Safety Agency (EASA) under approval no. 2005-6229 on 6 September 2005.

Enquiries regarding this Airworthiness Directive should be referred to Mr. Martin Borsum, Airworthiness Directive Section at the above address, fax-no. 0049-531-2355-725 or m.borsum@lba.de. Please note, that in case of any difficulty, reference should be made to the German issue!