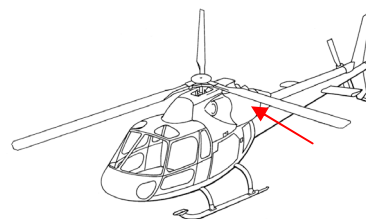
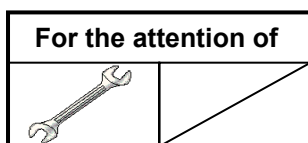


Civil version(s): E, F, F1, F2, N

# ALERT SERVICE BULLETIN

**SUBJECT: TIME LIMITS - MAINTENANCE CHECKS - Fan assembly**

**Check of fan assembly bearings**  
ATA 65



Revision No.	Date of issue
Revision 0	2017-07-03

**Summary:**

Check the condition of the fan assembly bearings.

**Compliance:**

Airbus Helicopters renders compliance with this ALERT SERVICE BULLETIN mandatory, except for paragraph 3.D.

## **1. PLANNING INFORMATION**

### **1.A. EFFECTIVITY**

#### **1.A.1. Helicopters/installed equipment or parts**

All helicopters.

#### **1.A.2. Non-installed equipment or parts**

Not applicable.

### **1.B. ASSOCIATED REQUIREMENTS**

Not applicable.

### **1.C. REASON**

Airbus Helicopters has been informed of a case of deterioration in flight of one of the fan assembly bearings. This deterioration led to the loss of the tail rotor drive.

Following investigations, the deterioration of the bearing is due to premature fouling of the fans that caused an imbalance in the rotation of the tail rotor drive, leading to the loss of the bearing.

Consequently, Airbus Helicopters makes it mandatory to measure the vibration level of the first section of the tail rotor drive and to clean the fan.

### **1.D. DESCRIPTION**

Compliance with this ALERT SERVICE BULLETIN consists in:

- Measuring the vibration level of the first section of the tail rotor drive,
- Cleaning the fan,
- Measuring, after cleaning, the vibration level of the first section of the tail rotor drive,
- Filling in the form with the measurements requested in Appendix 4.A. and returning this form to Airbus Helicopters.

## 1.E. COMPLIANCE

### 1.E.1. Compliance at H/C manufacturer level

Not applicable.

### 1.E.2. Compliance in service

The work on the helicopter is to be performed by the operator.

Helicopters/installed equipment or parts:

Comply with paragraph 3. no later than within 165 flying hours without exceeding 6 months following receipt of this ALERT SERVICE BULLETIN, issued on the date indicated at the foot of the page.

Non-installed equipment or parts:

Not applicable.

## 1.F. APPROVAL

Approval of modifications:

Not applicable.



Approval of this document:

The technical information contained in this ALERT SERVICE BULLETIN Revision 0 was approved on July 03, 2017 under the authority of EASA Design Organization Approval No. 21J.700 for civil version helicopters subject to an Airworthiness Certificate.

The technical information contained in this ALERT SERVICE BULLETIN Revision 0 was approved on July 03, 2017 under the prerogatives of the recognition of design capability FRA21J-002-DGA for French Government helicopters.

## 1.G. MANPOWER



For compliance with this ALERT SERVICE BULLETIN, Airbus Helicopters recommends the following personnel qualifications:

Qualification: 1 Mechanical Engineering Technician.



The time for the operations is given for information purposes, for a standard configuration.

Time for the operations: approximately 5 hours for 1 Mechanical Engineering Technician.



The estimated helicopter downtime is approximately 1 day.

**1.H. WEIGHT AND BALANCE**

Not applicable.

**1.I. POWER CONSUMPTION**

Not applicable.

**1.J. SOFTWARE UPGRADES/UPDATES**

Not applicable.

**1.K. REFERENCES**

The documents required for compliance with this ALERT SERVICE BULLETIN are as follows.

Maintenance Manual (MET):

- MET: 12.00.00.306: Scouring of the fan - Routine servicing
- MET: 60.00.00.301: General safety instructions - Mechanical Assemblies - Rotors generalities
- MET: 65.10.00.401: Tail rotor drive shaft: Removal - Installation - Tail rotor transmission
- MET: 65.10.00.601: Tail rotor drive shaft: Condition check - Tail rotor transmission
- MET: 65.10.00.604: Tail rotor drive first section balancing check - Tail rotor transmission
- MET: 65.10.00.605: Balancing the first tail rotor drive shaft element using the STEADY Control tuning equipment - Tail rotor transmission

**1.L. OTHER AFFECTED PUBLICATIONS**

The Master Servicing Manual (MSM) will be updated in compliance with paragraph 3.D. as part of a future revision.

**1.M. PART INTERCHANGEABILITY OR MIXABILITY**

Not applicable.

## 2. EQUIPMENT OR PARTS INFORMATION

### 2.A. EQUIPMENT OR PARTS: PRICE - AVAILABILITY - PROCUREMENT

#### Price

For any information concerning the kits and/or components or for assistance, contact the Airbus Helicopters Network Sales & Customer Relations Department.

#### Availability

Delivery times will be communicated on operator's request by the Sales and Customer Relations Department.

#### Procurement conditions

Order the required quantities from the Sales and Customer Relations Department of the Airbus Helicopters Network:

Airbus Helicopters  
 Etablissement de Marignane  
 Direction Ventes et Relations Client  
 13725 MARIGNANE CEDEX  
 FRANCE

#### **NOTE 1**

*On the purchase order, please specify the mode of transport, the destination and the serial numbers of the helicopters to be modified.*

#### **NOTE 2**

*For ALERT SERVICE BULLETINS, order by:  
 Telex: HELICOP 410 969F  
 Fax: +33 (0)4.42.85.99.96.*

### 2.B. LOGISTIC INFORMATION

Not applicable.

### 2.C. EQUIPMENT OR PARTS REQUIRED PER HELICOPTER/COMPONENT

Kits to be ordered for one helicopter or one assembly according to the result of compliance with paragraph 3.B.5.:

Designation	Qty	New P/N	Item	Former P/N →	Instruction
Fan bearing	2	6006F442M16	1	6006F442M16	Return
Rear fan bearing	For ref.		1a		
Front fan bearing	For ref.		1b		
Unit equipped with bearings	1	355A3410492001	2	355A3410492001	Return

Consumables to be ordered separately:

Refer to the Work Cards referenced in this ALERT SERVICE BULLETIN.

The consumables can be ordered separately from KLX AEROSPACE SOLUTIONS.

Website: <https://www.klxaerospace.com/klxaero/>

Telephone: +1.305.925.2600

AOG: +1.305.471.8888

Special tools to be ordered only if Appendix 4.B. is complied with:

Designation	Qty	Tool P/N or equivalent	Item
Fan bearing extractor	1	355A93344400	zz
Fan bearing fitting tool	1	355A93344520	yy

## **2.D. EQUIPMENT OR PARTS TO BE RETURNED**

Return the bearing or the unit removed in accordance with the procedure described in Service Letter 1567-00-02 and Information Notice 2814-I-00.

### **3. ACCOMPLISHMENT INSTRUCTIONS**

#### **3.A. GENERAL**

Read and comply with the general mechanical instructions as per MET Work Card 60.00.00.301.

#### **3.B. WORK STEPS**

##### **3.B.1. Preliminary steps**

Remove and/or open all cowlings, panels, doors and equipment required to gain access to the different work areas.

##### **3.B.2. Report of the last three vibration level measurements**

Complete the first three columns of the table in Appendix 4.A.:

- Report the last three amplitude values measured during the previous cases of compliance with MET Work Card 65.10.00.604 or 65.10.00.605.

##### **3.B.3. First vibration level measurement**

- Perform a first measurement of the tail rotor drive vibration level as per MET Work Card 65.10.00.604 or 65.10.00.605 without balancing.
- Report the amplitude value in column 4 of the table in Appendix 4.A.

##### **3.B.4. Fan cleaning**

Clean the fan as per MET Work Card 12.00.00.306.

##### **3.B.5. Second vibration level measurement**

- Perform another measurement of the tail rotor drive vibration level as per MET Work Card 65.10.00.604 or 65.10.00.605 without balancing.
- Report the amplitude value in column 5 of the table in Appendix 4.A.
- Calculate the difference between the amplitude values of columns 4 and 5,
  - . If the difference is less than or equal to 0.75 ips
    - Comply with paragraph 3.B.6.
  - . If the difference is greater than 0.75 ips (Figure 1)
    - Remove the fan assembly as per MET Work Card 65.10.00.401,
    - Remove unit (a) equipped with bearings from the fan assembly,
    - Replace former fan bearings (b) with new bearings (1) in accordance with the procedure described in Appendix 4.B. or return unit (a) equipped with bearings for replacement of the fan bearings,
    - Install unit (a or 2) equipped with bearings in the fan assembly,
    - Install the fan assembly as per MET Work Card 65.10.00.401,
    - Comply with paragraph 3.B.6.

### 3.B.6. Maintenance

- Comply with MET Work Card 65.10.00.604 or 65.10.00.605 and, if necessary, check the tail rotor drive as per MET Work Card 65.10.00.601.

#### **NOTE**

*It is necessary to strictly comply with the vibration levels indicated in the Work Card.*

- Balance the tail rotor drive as per MET Work Card 65.10.00.604 or 65.10.00.605.
- Return the following documents to Airbus Helicopters at the address indicated in Appendix 4.A.:
  - . Appendix 4.A. duly completed,
  - . a copy of the fan assembly log card (FM),
  - . a copy of the log cards (FM) of the fan assembly bearings.
- Comply with paragraph 3.B.7.

### 3.B.7. Final steps

Install and/or close all cowlings, panels and doors and equipment removed and/or opened during the preliminary steps (paragraph 3.B.1.).

## **3.C. COMPLIANCE CONFIRMATION**

Compliance with this document:

Record compliance with this ALERT SERVICE BULLETIN, with the revision number, in the helicopter documents.

## **3.D. OPERATING AND MAINTENANCE INSTRUCTIONS**

Operating instructions:

Not applicable.

Maintenance instructions:

Clean the fan as per MET Work Card 12.00.00.306 at intervals not exceeding 330 flying hours.

This instruction will be integrated in a future revision of the MSM. Refer to the MSM once this instruction has been integrated.





**A**

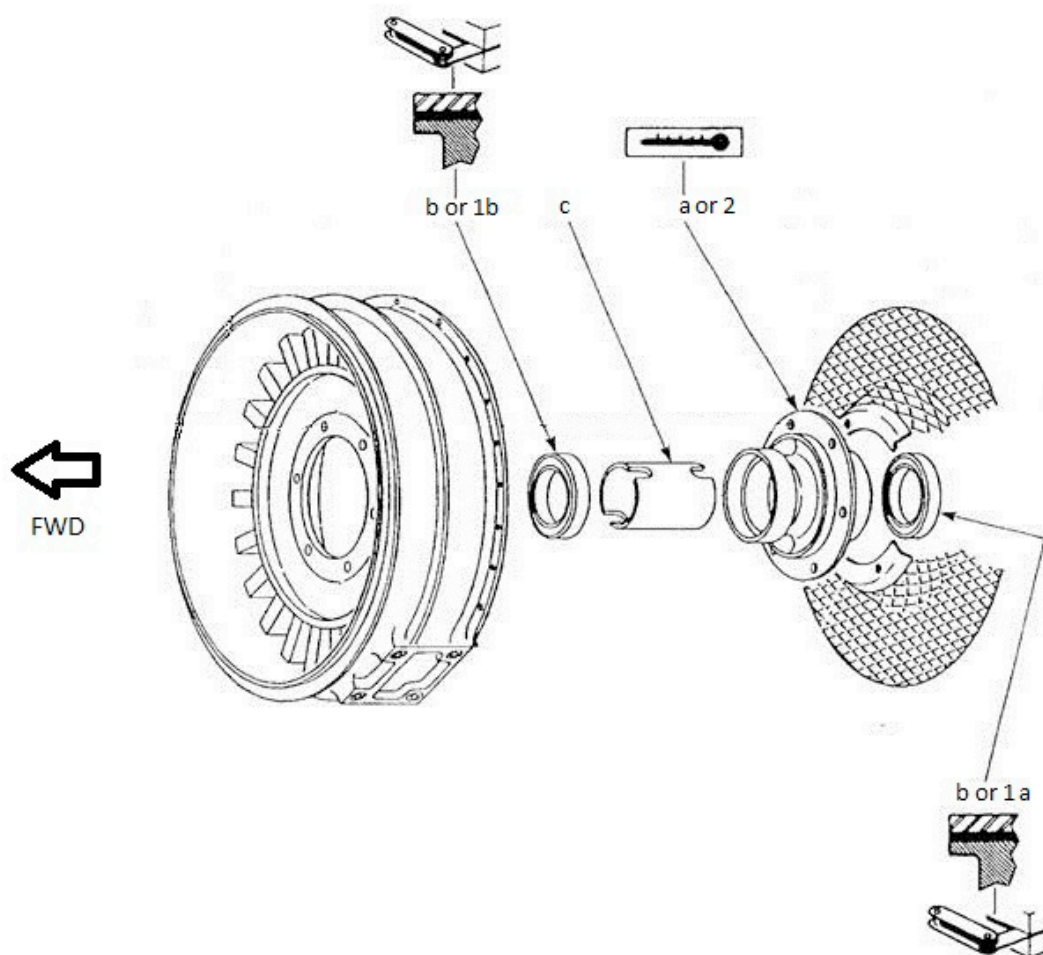


Figure 1

**4. APPENDIX**
**4.A. FORM**
**Response form for ALERT SERVICE BULLETIN No. 05.00.77**
**"Check of fan assembly bearings"**

Fill in the form and send it to the indicated fax number or by e-mail.

Airbus Helicopters - Etablissement de Marignane

Customer Support

Fax: +33 (0)4 42 85 99 66 or e-mail: [support.technical-dyncomp.ah@airbus.com](mailto:support.technical-dyncomp.ah@airbus.com)

**Operator Name and Address:**


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**Aircraft Type and Version:** \_\_\_\_\_

**S/N of the helicopter:** \_\_\_\_\_

**Operating zone (country):** \_\_\_\_\_

**Climatic conditions:** Sand-laden and/or dust-laden atmosphere *(strike out where inapplicable)*

**Tail rotor drive vibration level measurement:**

Measurements		1	2	3	4	5
Imbalance measurement	Amplitude (ips)					
	Date of measurement					
	Number of flying hours logged by the fan bearing					
	Number of flying hours logged by the helicopter					
	Reason for measurement				Compliance with ASB	Compliance with ASB

**Remarks:**


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Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Please make a copy of this page. The original form must remain in the ALERT SERVICE BULLETIN.

**4.B. BEARING REPLACEMENT PROCEDURE**

As per Figure 1

- Removal of bearings (b):

- . Heat unit (a) equipped with bearings,

**CAUTION**

**THE UNIT EQUIPPED WITH BEARINGS IS MADE  
OF ALUMINUM. DO NOT HEAT TO A  
TEMPERATURE OF MORE THAN 90°C.**

- . Extract bearings (b) using fan bearing extractor (zz),
  - . Remove spacer (c),
  - . Visually check for correct condition of the removed parts (no wear or fretting) and, if necessary, repair as per MTC.
- Installation of bearings (1) and spacer (c) on unit (a):
- . Place unit (a) in a climatic chamber at 80°C for 30 minutes,
  - . On unit (a), install rear bearing (1a) using fan bearing fitting tool (yy),
  - . On unit (a), install front bearing (1b) and spacer (c) using fan bearing fitting tool (yy),
  - . Let the assembly return to room temperature,
  - . Continue reassembly of the fan assembly as per paragraph 3.B.5.