	AIRWORTHINESS DIRECTIVE No F-2004-116	Distribution: A	Issue date: July 21, 2004	Page : 1/4
Direction générale de l'aviation civile France	This Airworthiness Directive is published by the DGAC: <input checked="" type="checkbox"/> on behalf of EASA, the Primary Airworthiness Authority for the affected product. <input type="checkbox"/> as the Registration Airworthiness Authority for the affected aircraft.		Translation of « Consigne de Navigabilité » of same number. In case of difficulty, reference should be made to the French issue.	
	GSAC publication No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive, unless otherwise agreed with the Authority of the State of Registry.			
Corresponding foreign Airworthiness Directive(s): Not applicable		Airworthiness Directive(s) replaced: 2003-155 cancelled by its Revision 1		
Person in charge of airworthiness: EUROCOPTER		Type(s): AS 365 N helicopters		
Type certificate(s) No. 86 TCDS No 159				
ATA chapter: 64	Subject: Tail rotor - Tail rotor blade monitoring and limitations			

1. **EFFECTIVITY:**

EUROCOPTER SA 365 N1 and AS 365 N2 and N3 helicopters equipped with tail rotor blades (called "blades" in the text below) with the following part numbers:

- 365A33-2131- all dash numbers.
- 365A12-0010- all dash numbers.
- 365A12-0020- all dash numbers.

2. **REASONS:**

The fatigue failure of the Kevlar spar of a blade, which resulted in an accident due to the loss of the anti-torque function, led to the issue of Airworthiness Directive (AD) 2003-155 which also covered the requirements of AD 1988-153-023 R5 and AD 2002-509 concerning the periodic blade skin debonding check.

Two further cases of skin debonding on tail rotor blades operated in hot climatic conditions or in tropical and damp atmosphere have been reported.

The results of the investigations lead to the issue of a new AD, which:

covers the requirements of AD 2003-155,

- introduces:

- reinforced monitoring measures for blades operated in normal climatic conditions,
- new monitoring measures for blades operated in hot climatic conditions or in tropical and damp atmosphere.

Note: 1) The climatic operating conditions for tropical and damp atmosphere are defined in the "General" chapter of the Master Servicing Recommendations (PRE) for the aircraft concerned.

2) The climatic operating conditions for hot zones are defined as follows:

- Aircraft operated in areas with high solar radiation at temperatures above 40°C.



3. MANDATORY ACTIONS AND COMPLIANCE TIMES:

The following measures are rendered mandatory from the effective date of this AD:

3.1. Blades specified in § 1 of this AD regardless of the climatic operating conditions:

- Visually check the blade at each ALF-check in compliance with paragraph 2.B.1. of the referenced EUROCOPTER Alert Service Bulletin (ASB).
- Check the clearance between the blade and the fenestron duct every 10 flight hours in compliance with § 2.B.4. of the referenced ASB.

3.2. Blades specified in § 1 of this AD and with a serial number below SN 18912:

3.2.1. Blade operated in normal climatic conditions:

- Do a tapping-test on the blade every 50 cycles or 25 flight hours (the first limit reached is applicable), in compliance with § 2.B.2.a. of the referenced ASB.
- Do a tapping-test in zone "D" of the blade root suction face every 25 flight hours, in compliance with § 2.B.3. of the referenced ASB.

3.2.2. Blade operated in hot climatic conditions or in tropical and damp atmosphere:

- At each ALF-check, without exceeding 10 flight hours between two checks, do a tapping-test:
 - in zone "D" of the blade root suction face, in compliance with § 2.B.3. of the referenced ASB,
 - in zone "B" and "C" of the blade suction face skin, in compliance with § 2.B.2.b. of the referenced ASB.
- Do a tapping-test in zone "B" and "C" of the blade pressure face skin every 50 cycles or 25 flight hours (the first limit reached is applicable), in compliance with § 2.B.2.c. of the referenced ASB.

3.3. Blades PN 365A12-0020-02 with a serial number equal to or above S/N 18912:

3.3.1. Blade operated in normal climatic conditions:

- Every 25 flight hours, do a tapping-test:
 - on the blade, in compliance with § 2.B.2.a. of the referenced ASB,
 - in zone "D" of the blade root suction face, in compliance with § 2.B.3. of the referenced ASB.

3.3.2. Blade operated in hot climatic conditions or in tropical and damp atmosphere:

- At each ALF-check, without exceeding 10 flight hours between two checks, do a tapping-test:
 - in zone "D" of the blade root suction face, in compliance with § 2.B.3. of the referenced ASB,
 - in zone "B" and "C" of the blade suction face skin, in compliance with § 2.B.2.b. of the referenced ASB.
- Do a tapping-test in zone "B" and "C" of the blade pressure face skin every 25 flight hours, in compliance with § 2.B.2.c. of the referenced ASB.

3.4. Blades PN 365A12-0020-02 with a serial number equal to or above SN 32944, except for the following serial numbers: SN 32963 to 33091 inclusive, SN 33116 to 33187 inclusive, SN 33232 to 33319 inclusive:



3.4.1. Blades with more than 150 flight hours:

- Remove the blades in compliance with § 2.B.5. of the referenced ASB no later than within 10 flight hours as from April 17, 2003, the effective date of AD 2003-155.

3.4.2. Blades with less than 150 flight hours:

- Remove the blades in compliance with § 2.B.5. of the referenced ASB at the latest at 160 flight hours.
- Pending their removal, comply with the measures described in paragraph 1.E.2.a. or 1.E.2.a.6. of the referenced ASB.

3.5. Blades PN 365A12-0020-02 and -04 that are operated in normal climatic conditions:

3.5.1. Blades that are **not affected by skin debonding** in zone "D" of the blade suction face:

- Every 25 flight hours, do a tapping-test:
 - in zone "D" of the blade root suction face, in compliance with § 2.B.3. of the referenced ASB,
 - in zone "B" and "C" of the blade suction face skin, in compliance with § 2.B.2.b. of the referenced ASB.
- Do a tapping-test in zone "B" and "C" of the blade pressure face skin every 100 flight hours, in compliance with § 2.B.2.c. of the referenced ASB.

3.5.2. Blades that are **affected by permissible skin debonding** in zone "D" of the blade suction face:

- At each ALF-check, without exceeding 10 flight hours between two checks, do a tapping-test in zone "D" of the blade root suction face, in compliance with § 2.B.3. of the referenced ASB.
- Scrap the blade within 25 flight hours following the discovery of skin debonding in this zone.


3.6. Blades PN 365A12-0020-02 and -04 that are operated in hot climatic conditions or in tropical and damp atmosphere:

3.6.1. Blades that are **not affected by skin debonding** in zone "D" of the blade suction face:

- At each ALF-check, without exceeding 10 flight hours, do a tapping-test:
 - in zone "D" of the blade root suction face, in compliance with § 2.B.3. of the referenced ASB,
 - in zone "B" and "C" of the blade suction face skin, in compliance with § 2.B.2.b. of the referenced ASB.
- Do a tapping-test in zone "B" and "C" of the blade pressure face skin every 100 flight hours, in compliance with § 2.B.2.c. of the referenced ASB.

3.6.2. Blades that are **affected by permissible skin debonding** in zone "D" of the blade suction face:

- At each ALF-check, without exceeding 10 flight hours between two checks, do a tapping-test in zone "D" of the blade root suction face, in compliance with § 2.B.3. of the referenced ASB.
- Scrap the blade within 25 flight hours following the discovery of skin debonding in this zone.

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3.7. Blades held as spares and listed in § 1 of this AD:

On installation of a blade or a tail rotor assembly, comply with paragraph 1.E.2.a. of the referenced ASB.

4. REFERENCE PUBLICATION:

Revision 1 of Edition 1 of EUROCOPTER AS 365 Alert Service Bulletin No. 05.00.17.
(Any subsequent approved revision of this ASB is acceptable).

5. EFFECTIVE DATE:

July 31, 2004.

6. REMARK:

For any questions concerning the technical content of the requirements in this AD, please contact:

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7. APPROVAL:

This AD is approved under EASA reference No. 2004-7515 dated July 13, 2004.

SUPERSEDED