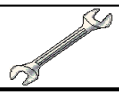


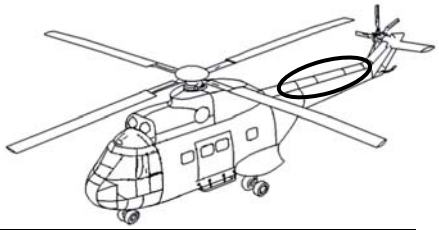
Civil version(s): J
Military version(s): Ba, Ca, Ea, H, L, Jm, S1, Sm

ALERT SERVICE BULLETIN

SUBJECT: TIME LIMITS - MAINTENANCE CHECKS

Check of tail rotor control turnbuckle
ATA: 67 Rotor Flight Controls

For the attention of




Revision No.	Date of issue
Revision 0	2013-03-14
Revision 1	2013-06-05

Summary:

The purpose of this ALERT SERVICE BULLETIN is to carry out a visual check for absence of corrosion or crack(s) on the tail rotor control turnbuckles.

Reason for last Revision:

The purpose of Revision 1of this ALERT SERVICE BULLETIN is to specify that the replacement of the turnbuckle related to external corrosion of less than or equal to 0.3 mm is carried out within 6 months following the last compliance with paragraph 3.B.2.c of this ALERT SERVICE BULLETIN.

Compliance:

Compliance with this ALERT SERVICE BULLETIN is mandatory.

1. PLANNING INFORMATION

1.A. EFFECTIVITY

1.A.1. Helicopters/installed equipment

All SA330 helicopters equipped with turnbuckles P/N 330A27-5031-20.

1.A.2. Non-installed equipment

On turnbuckles P/N 330A27-5031-20.

1.B. ASSOCIATED REQUIREMENTS

Not applicable.

1.C. REASON

Revision 0:
EUROCOPTER has been informed of the rupture of one of the tail rotor control turnbuckles due to corrosion damage. The damage was discovered during a flight control check after a MGB replacement. Investigation revealed that missing Mastinox sealant between the turnbuckle tappings and end-fittings led to formation of galvanic corrosion.

In case of corrosion, tail rotor control turnbuckles may break and lead to loss of tail rotor control on the helicopter. In order to prevent a similar occurrence, EUROCOPTER makes it mandatory to check all the tail rotor control turnbuckles to make sure there is no corrosion or crack.

In addition, EUROCOPTER makes the visual check on the turnbuckles every 12 months mandatory.

Revision 1:
The purpose of Revision 1of this ALERT SERVICE BULLETIN is to specify that the replacement of the turnbuckle related to external corrosion of less than or equal to 0.3 mm is carried out within 6 months following the last compliance with paragraph 3.B.2.c of this ALERT SERVICE BULLETIN.

Revision 1 of this ALERT SERVICE BULLETIN does not affect compliance with Revision 0.

1.D. DESCRIPTION

This ALERT SERVICE BULLETIN consists of:
- A visual check on all tail rotor control turnbuckles to make sure there is no corrosion or crack.

1.E. COMPLIANCE

1.E.1. Compliance at the works

Helicopters/installed equipment:

Not applicable.

Non-installed equipment:

Not applicable.

1.E.2. Compliance in service

Helicopters/installed equipment:

Comply with paragraphs 3.A., 3.B.1. and 3.B.2.a. of this ALERT SERVICE BULLETIN, within 110 flying hours or no later than within 3 months from receipt of this ALERT SERVICE BULLETIN Revision 0, issued on the date mentioned in the page footer.

Following compliance with paragraph 3.B.2.a., interpret the results for each of the two turnbuckles:
- If there are cracks or corrosion, replace the turnbuckle as per paragraph 3.B.2.d. **before resuming flights**.
- If there are no cracks and no corrosion, comply with paragraph 3.B.2.b.1.

Following compliance with paragraph 3.B.2.b.1., interpret the results:
- If there are cracks, replace the turnbuckle as per paragraph 3.B.2.d. **before resuming flights**.
- If there are no cracks and no corrosion, reinstall the turnbuckle as per paragraph 3.B.3. **before resuming flights.**
- If there are no cracks but corrosion is found, comply with paragraph 3.B.2.b.2.

Following compliance with paragraph 3.B.2.b.2., interpret the results:
- If there is corrosion to a depth of over 0.3 mm. replace the turnbuckle as per paragraph 3.B.2.d. **before resuming flights**.
- If there is corrosion to a depth less than, or equal to 0.3 mm:
  . Carry out corrosion treatment as per paragraph 3.B.2.c.
  . Reinstall the turnbuckle as per paragraph 3.B.3. **before resuming flights**.
  . Replace the turnbuckle as per paragraph 3.B.2.d. within 6 months following the last compliance with paragraph 3.B.2.c. of this ALERT SERVICE BULLETIN.

NOTE

A flow chart describing compliance with paragraph 3. and used to interpret the results is also available in Appendix 1.

Then,

Comply with paragraph 3. at intervals not exceeding 12 months.

Non-installed equipment:

- For new turnbuckles or turnbuckles which have never been installed, no action is required.

- For turnbuckles which have already been installed, comply with paragraphs 3.A. and 3.B.2.a. before installation or no later than within 12 months from receipt of this ALERT SERVICE BULLETIN Revision 0, issued on the date mentioned in the page footer.

Then, interpret the results in the same manner as for installed equipment.

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 March 14, 2013 under the authority of EASA Design Organization Approval No. 21J.056 for helicopters of civil versions subject to an Airworthiness Certificate.

The technical information contained in this ALERT SERVICE BULLETIN Revision 0 was approved on March 14, 2013 under the prerogatives of the recognition of design capability FRA21J-002-DGA for French Government helicopters.

The technical information contained in this ALERT SERVICE BULLETIN Revision 0 was approved on March 14, 2013 by the EUROCOPTER Airworthiness Department for export military versions.

The technical information contained in this ALERT SERVICE BULLETIN Revision 1 was approved on june 05, 2013 under the authority of EASA Design Organization Approval No. 21J.056 for helicopters of civil versions subject to an Airworthiness Certificate.

The technical information contained in this ALERT SERVICE BULLETIN Revision 1 was approved on june 05, 2013 under the prerogatives of the recognition of design capability FRA21J-002-DGA for French Government helicopters.

The technical information contained in this ALERT SERVICE BULLETIN Revision 1 was approved on june 05, 2013 by the EUROCOPTER Airworthiness Department for export military versions.

1.G. MANPOWER



Qualification:
For compliance with this ALERT SERVICE BULLETIN:
1 Mechanical Technician.



Time for the operations:
4 hours.



Estimated helicopter grounding time:
4 hours

1.H. WEIGHT AND BALANCE

Not applicable.

1.I. EFFECT ON ELECTRICAL LOADS

Not applicable.

1.J. SOFTWARE MODIFICATION EMBODIMENT RECORD

Not applicable.

1.K. REFERENCES

The following documents are required for compliance with this ALERT SERVICE BULLETIN:

Maintenance Manual:

67.00.301	General instructions
67.20.404	Control Cables Removal - Installation
OR	
350A	General instructions
352G	Control Cables Removal - Installation
OR	

Aircraft Maintenance Manual (MMA):

67-00-00-611	General Instructions
67-22-00-061	Control Cables Removal - Installation

Standard Practices Manual (MTC):

20.02.06.408	Safetying Turnbuckles
20.04.03.401	General Method for Reconditioning Corroded Metal Surfaces
20.04.04.403	Touch-up of protective treatment with Alodine 1200
20.04.05.402	Use of EPOXY primer P05 - P20 and P50

1.L. DOCUMENTS AFFECTED

CAUTION

THE USER OF THIS ALERT SERVICE BULLETIN MUST ENSURE THAT ALL MAINTENANCE DOCUMENTS NECESSARY FOR THE MAINTENANCE OF THIS INSTALLATION IS AVAILABLE. OTHERWISE, IT IS THE RESPONSIBILITY OF THE USER TO OBTAIN DOCUMENTS FROM THEIR USUAL EUROCOPTER CONTACT.

Documents to be updated:

The technical information given in this ALERT SERVICE BULLETIN will be integrated into the following manuals: MDE, AMM.

Documents already updated:

Not applicable.

1.M. INTERCHANGEABILITY OR MIXABILITY OF PARTS

Not applicable.

2. MATERIAL INFORMATION

2.A. MATERIAL: PRICE - AVAILABILITY - PROCUREMENT

For any information concerning price of kits and/or components, contact the Customer Relations and Sales Department of the EUROCOPTER network.

EUROCOPTER
Etablissement de Marignane
Direction Ventes et Relations Client (ECR)
13725 MARIGNANE CEDEX
FRANCE

NOTE 1

On the purchase order, please always specify the mode of transport, the destination and the serial numbers of the aircraft 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. INFORMATION CONCERNING INDUSTRIAL SUPPORT

Not applicable.

2.C. MATERIAL REQUIRED FOR EACH HELICOPTER/COMPONENT

Components to be ordered for one helicopter or one assembly:

Key Word	Qty	New P/N	Item	Former P/N →	Instruction
Turnbuckle	2*	330A27-5031-20	1		

* Depending on the condition as specified in paragraph 3.B with a maximum quantity of 2 per helicopter.

Material to be ordered separately:

Key Word	Qty	New P/N	Item	Former P/N →	Instruction
Locking Pin	4	651-91-4D54	2		Work Card 67.20.404 Work Card 352G Task 67-22-00-061
Lock Washer	4	330A27-5030-20	3		

Products to be ordered separately:

Key Word	Qty	New P/N	Item	Former P/N →	Instruction
MASTINOX sealant	A/R	6856 K	4		

2.D. MATERIAL TO BE RETURNED

Not applicable.

3. ACCOMPLISHMENT INSTRUCTIONS

3.A. GENERAL

Comply with the General Instructions (refer to paragraph 1.K.).

3.B. OPERATIONAL PROCEDURE

3.B.1. Preliminary steps

Remove the two tail rotor control turnbuckles (a) (refer to paragraph 1.K.) (Figure 1).

3.B.2. Procedure (Figure 1)

3.B.2.a. Visual check for corrosion or crack(s) on tappings and the middle hole (internal surface of turnbuckles)

- Using an inspection light source, perform a visual check of the tappings and the middle hole of the turnbuckles (a) for absence of corrosion or crack(s):
  Areas affected by corrosion may be dirty or show bulges and are covered with powdery deposit or whitish or reddish pits.
- Interpret the results as per paragraph 1.E.2.

3.B.2.b. External surface check

3.B.2.b.1. Visual check for corrosion or crack(s) on external surface

- Perform a visual check with an inspection light source on the external surface of the turnbuckles (a) for absence of corrosion or crack(s):
  Areas affected by corrosion may be dirty or show bulges, the paint has usually faded and is covered with powdery deposit or whitish or reddish pits.
- Interpret the results as per paragraph 1.E.2.

3.B.2.b.2. Measurement of the corrosion depth

- For each turnbuckle, if there is corrosion:
  . Sand the corroded surface until the corrosion is eliminated and apply the procedure defined in Work Card 20.04.03.401 (MTC) General method for reconditioning corroded metal surfaces.
  . Gauge the damaged depth.
- Interpret the results as per paragraph 1.E.2.

3.B.2.c. Corrosion treatment on external surface

- Perform corrosion treatment as per Work Card:

20.04.03.401	General Method for Reconditioning Corroded Metal Surfaces
20.04.04.403	Touch-up of protective treatment with Alodine 1200
20.04.05.402	Use of EPOXY primer P05 - P20 and P50

3.B.2.d. Replacement of turnbuckle

- Discard the damaged turnbuckle(s) (a).
- Install the new turnbuckle(s) (1) as per Final steps paragraph 3.B.3.

3.B.3. Final steps

- Visually check the general surface condition of the turnbuckle before installing it (scratches or damage to the paint) and, if necessary, touch up as per paragraph 3.B.2.c.

CAUTION

MAKE SURE END-FITTINGS AND INTERIOR OF THE TURNBUCKLE ARE COATED WITH MASTINOX SEALANT (4) BEFORE INSTALLATION OF THE TURNBUCKLE.

- Install the tail rotor control turnbuckles (a) or (1) (refer to paragraph 1.K.) (Figure 1).
- Safety the turnbuckles as per MTC Work Card 20.02.06.408.

3.C. IDENTIFICATION

Identification of this document:

Record compliance with this document and the Revision number in the helicopter documents.

3.D. OPERATING AND MAINTENANCE INSTRUCTIONS

Operating instructions:

Not applicable.

Maintenance instructions:

EUROCOPTER makes compliance with paragraph 3. of this ALERT SERVICE BULLETIN mandatory,at intervals not exceeding 12 months.

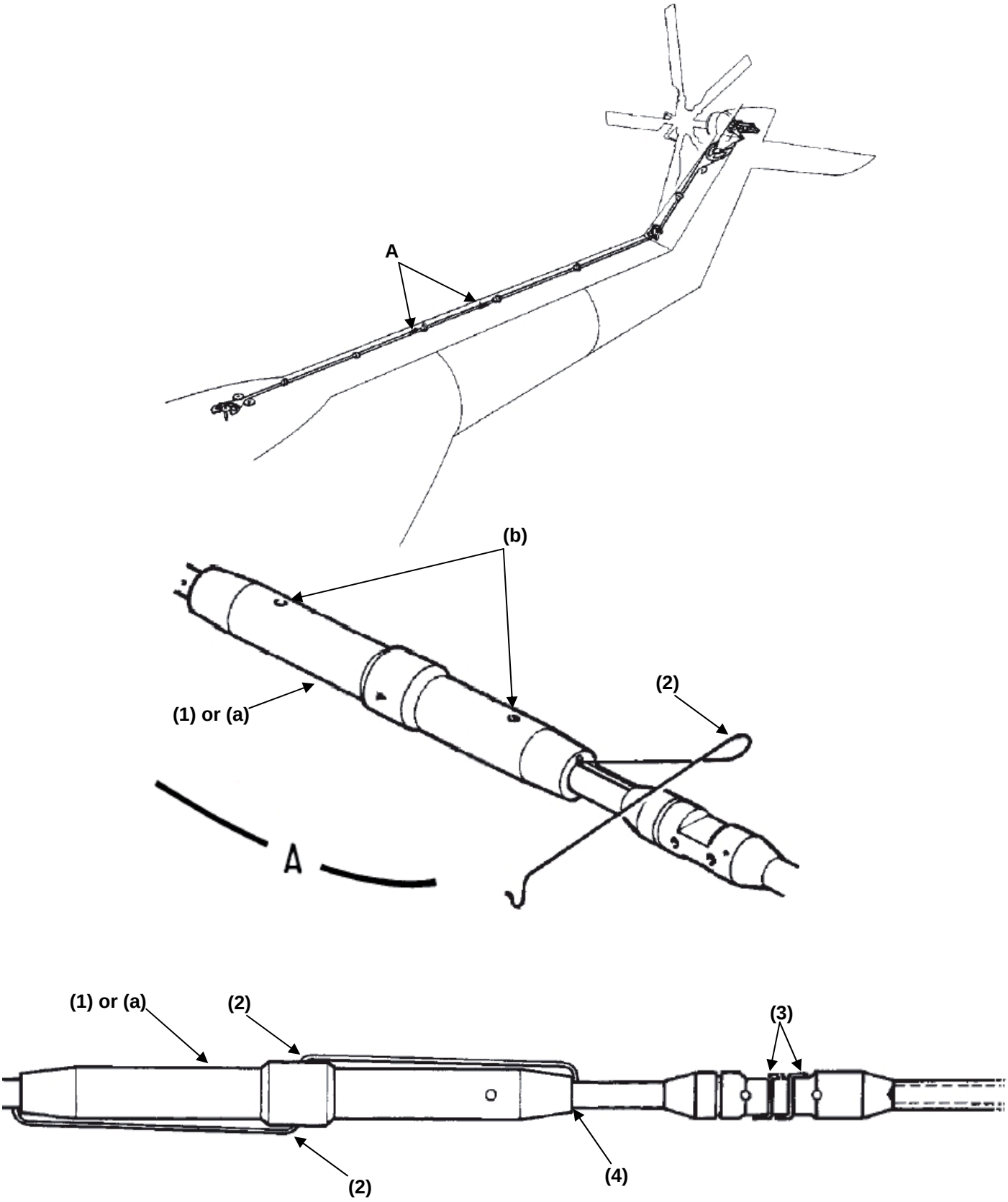
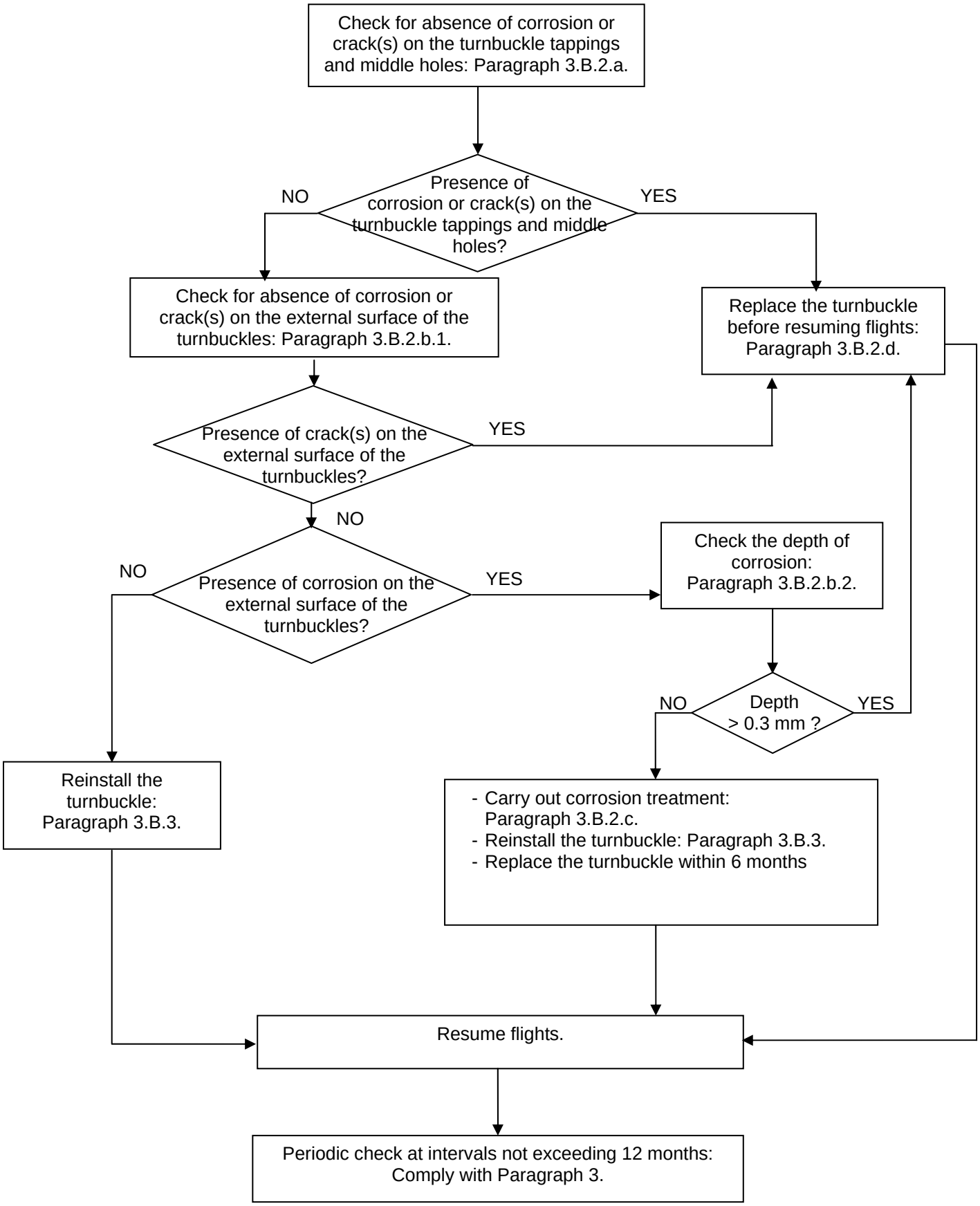


Figure 1

4. APPENDIX


Check for absence of corrosion or crack(s) on the turnbuckle tappings and middle holes: Paragraph 3.B.2.a.
Presence of corrosion or crack(s) on the turnbuckle tappings and middle holes?
NO
YES
Check for absence of corrosion or crack(s) on the external surface of the turnbuckles: Paragraph 3.B.2.b.1.
Replace the turnbuckle before resuming flights: Paragraph 3.B.2.d.
Presence of crack(s) on the external surface of the turnbuckles?
YES
NO
Presence of corrosion on the external surface of the turnbuckles?
NO
YES
Check the depth of corrosion: Paragraph 3.B.2.b.2.
Depth > 0.3 mm ?
NO
YES
Reinstall the turnbuckle: Paragraph 3.B.3.
- Carry out corrosion treatment: Paragraph 3.B.2.c.
- Reinstall the turnbuckle: Paragraph 3.B.3.
- Replace the turnbuckle within 6 months
Resume flights.
Periodic check at intervals not exceeding 12 months: Comply with Paragraph 3.