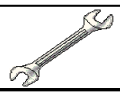
EMERGENCY
ALERT SERVICE BULLETIN

PROTECTIVE MEASURE

TIME LIMITS - MAINTENANCE CHECKS - Upper fin
Inspection of the spar and attachment screws of the upper fin
ATA: 55

For the attention of	
	

HELICOPTER CONCERNED	NUMBER	Version(s)	
		Civil	Military
AS350	05.00.90	B3	/
AS355	05.00.76	E, F, F1, F2, N, NP	/
AS550	05.00.66	/	C3
AS555	05.00.56	/	AF, AN, AP, SN, UF, UN

Revision No.	Date of issue
Revision 0	2017-06-27
Revision 1	2020-07-22
Revision 2	2021-03-04
Revision 3	2023-04-06
Revision 4	2023-05-02
Revision 5	2024-07-09

Summary:

This ALERT SERVICE BULLETIN consists in:
- cleaning the spar of the upper fin,
- checking the condition of the spar of the upper fin,
- checking the condition of the upper fin attachment screws.

Reason for last Revision:

The purpose of revision 5 is to cancel compliance with this ALERT SERVICE BULLETIN for helicopters that have an upper fin assembly P/N 355A14-0522-1751 (POST MOD 0720098).

Compliance:

Compliance with this ALERT SERVICE BULLETIN is mandatory.

1. PLANNING INFORMATION

1.A. EFFECTIVITY

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

NOTE 1

If the reference of the upper fin assembly is not listed in the tables below or not visible on the part or not identified in the helicopter documents, you must consider that the effectivity is:

- *For AS355 and AS555 helicopters: all helicopters are concerned by this ALERT SERVICE BULLETIN except for the upper fin assembly P/N 355A14-0522-1751 (POST MOD 0720098) which is not concerned by this ALERT SERVICE BULLETIN.*
- *For AS350 B3 and AS550 C3 helicopters:*
  this ALERT SERVICE BULLETIN is only applicable to: PRE MOD 073148 helicopters or that have embodied 073148 through Service Bulletin AS350 No. 55.00.14 or AS550 No.55.00.08 "Vertical fin with small trailing edge angle".

NOTE 2

Modification 073148 consists in reducing the length of the fin's angle bracket in order to reduce the dynamic loads applied to the rotor.

NOTE 3

Modification 073148 can be embodied through Service Bulletins AS350 No. 55.00.14 and AS550 No. 55.00.08.

NOTE 4

Refer to the Aircraft Log Book to identify the modification status of the helicopter.

NOTE 5

This ALERT SERVICE BULLETIN is not applicable to helicopters that have embodied modification 073148 at manufacturer level.

NOTE 6

Modification 0720098 consists in replacing the upper fin with a new one that has a reinforced fin spar and can be embodied through ASB AS355 No. 55.00.18 and AS555 No. 55.00.10.

- For AS355 and AS555 helicopters: all helicopters equipped with upper fin assembly listed in the Table No.1 below are concerned by this ALERT SERVICE BULLETIN:

Designation	Reference
Upper fin assembly	355A08-5508-0201
	355A08-5508-0401
	355A08-5508-0501
	355A08-5508-0601
	350A08-5506-0701
	350A08-5506-1701
	350A08-5506-1801
	355A14-0522-1601
	355A14-0522-1602

Table No. 1

- For AS350 B3 and AS550 C3 helicopters: this ALERT SERVICE BULLETIN is only applicable to:
. PRE MOD 073148 helicopters equipped with upper fin assembly listed in the Table No.2 below

Designation	Reference
Upper fin assembly	350A08-5506-1201
	355A08-5508-0701
	350A14-0020-1901

Table No. 2

or
. Helicopters that have embodied modification 073148 through Service Bulletin AS350 No. 55.00.14 or AS550 No. 55.00.08 and equipped with upper fin assembly listed in the Table No.3 below.

Designation	Reference
Upper fin assembly	350A14-0020-1902
	350A08-5506-1201

Table No. 3

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

Not applicable.

1.B. ASSOCIATED REQUIREMENTS

Not applicable.

1.C. REASON

Revision 0:

Airbus Helicopters has been informed of a partial fracture of the spar of the upper fin which occurred during a flight at low speed. The pilot felt vibrations in the flight controls and landed in accordance with the instructions given in the Flight Manual. This incident did not affect the safety of the helicopter, its occupants or persons on the ground.

Inspections revealed a crack in the spar of the upper fin and the fracture of the two front attachment screws of the fin.

As damage to this connection could, over time, lead to the loss of the fin, Airbus Helicopters introduces several checks of the upper fin.

Airbus Helicopters renders compliance with this ALERT SERVICE BULLETIN mandatory.

Revision 1:

The purpose of revision 1 of this ALERT SERVICE BULLETIN is to:
- reduce the periodicity of the visual inspection of the RH side of the spar from 55 flight hours to 10 flight hours,
- delete the visual inspection of the LH side of the spar and the check for the attachment screws of the upper fin at 55 flight hours,
- add details to the procedure.

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

Revision 2:

A recent analysis has identified that the fatigue damage accumulated with the initial tail fin configuration can occur on AS350 B3 and AS550 C3 helicopters modified through Service Bulletin AS350 No. 55.00.14 or AS550 No. 55.00.08.
Because of this, revision 2 extends the effectivity to AS350 B3 and AS550 C3 helicopters that have embodied modification 073148 through Service Bulletin AS350 No. 55.00.14 or AS550 No. 55.00.08.
Also, for better understanding of the ALERT SERVICE BULLETIN, Airbus Helicopters has used Simplified Technical English (STE).
Revision 2 of this ALERT SERVICE BULLETIN has no effect on the application of the former revisions of this ALERT SERVICE BULLETIN.

Revision 3:

A new case of crack on the spar of the upper fin occurred recently on an AS355.

Analyzes following this new crack lead Airbus Helicopters to limit the VNE.

The function of Revision 3 of this ALERT SERVICE BULLETIN is:
- To limit the Velocity Never Exceed (VNE) to 110 knots for helicopters type AS355 and AS555.
- To add the Part Number (P/N) in the effectivity paragraph 1.A.1. for all helicopters.
- To take into account the TSN of the upper fin assembly in case a new upper fin assembly has been installed, for all helicopters.

Revision 3 of this ALERT SERVICE BULLETIN has no effect on the compliance with former revisions of this ALERT SERVICE BULLETIN.

Revision 4:

The function of Revision 4 of this ALERT SERVICE BULLETIN is:
- To precise the effectivity in case of impossibility to identify the upper fin reference.
- To authorize maintenance flights that require exceeding 110 knots with the condition of an additional inspection.
- To expand positioning options of the VNE limitation label in the cockpit.

Revision 4 of this ALERT SERVICE BULLETIN has no effect on the compliance with former revisions of this ALERT SERVICE BULLETIN.

Revision 5:

The purpose of revision 5 is to cancel compliance with this ALERT SERVICE BULLETIN for helicopters that have an upper fin assembly P/N 355A14-0522-1751 (POST MOD 0720098).

Revision 5 of this ALERT SERVICE BULLETIN has no effect on the compliance with former revisions of this ALERT SERVICE BULLETIN.

1.D. DESCRIPTION

This ALERT SERVICE BULLETIN includes the work steps that follow:

For all helicopters:
- Cleaning the spar of the upper fin.
- Checking the condition of the spar of the upper fin.
- Checking the condition of the upper fin attachment screws.

For helicopters AS355 and AS555 only:
- Limit the VNE to 110 knots
- Install a label in the cockpit.

1.E. COMPLIANCE

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

Not applicable.

1.E.2. Compliance in service

The operator must do the work on the helicopter.
The visual inspection (paragraph 3.B.2.) can be done by a pilot with correct training and accreditation in compliance with the local regulation in force.

Helicopters/installed equipment or parts:

NOTE 7

The compliance times defined in this paragraph refer to the flight hours accumulated by the helicopter when the upper fin assembly has not been replaced.
*If a **new** upper fin assembly has been installed, the TSN to be taken into account is the one of the upper fin assembly.*

1.E.2.a. <u>For AS355 and AS555 helicopters and for AS350 B3 and AS550 C3 helicopters that are PRE MOD 073148:</u>

- For helicopters or upper fin assembly with a TSN that is **less than or equal to 605 flight hours**:
  . Do cleaning and a condition check: refer to paragraphs 3.B.1. and 3.B.3. **when you get to 660 flight hours.**
  Then:
  . **Every 10 flight hours,** comply with paragraphs 3.B.1. and 3.B.2.
  Then:
  . **Every 660 flight hours**, comply with paragraphs 3.B.1. and 3.B.3.

- For helicopters or upper fin assembly with a TSN that is **more than 605 flight hours**:
  . Do a visual check (refer to paragraphs 3.B.1. and 3.B.2.):
  .. In less than **55 flight hours** after you received revision 1 of this ALERT SERVICE BULLETIN issued on July 22, 2020
  . **Before you get to 55 flight hours since the last inspection.**
  Then:
  . **Every 10 flight hours**, comply with paragraphs 3.B.1. and 3.B.2.
  Then:
  . Only for helicopters that had more than 605 flight hours on receipt of revision 0 of this ALERT SERVICE BULLETIN:
  . **In less than 165 flight hours** after you received revision 0 of this ALERT SERVICE BULLETIN (refer to the issue date on the page footer), comply with paragraphs 3.B.1. and 3.B.3.
  Then:
  . **Every 660 flight hours**, comply with paragraphs 3.B.1. and 3.B.3.

1.E.2.b. <u>For AS350 B3 and AS550 C3 helicopters that have embodied modification 073148 through Service Bulletins AS350 No. 55.00.14 and AS550 No. 55.00.08:</u>

- For helicopters or upper fin assembly with a TSN that is **less than or equal to 605 flight hours**:
  . Do cleaning and a condition check: refer to paragraphs 3.B.1. and 3.B.3. **when you get to 660 flight hours.**
  Then:
  . **Every 10 flight hours:** comply with paragraphs 3.B.1. and 3.B.2.
  Then:
  . **Every 660 flight hours**, comply with paragraphs 3.B.1. and 3.B.3.

- For helicopters or upper fin assembly with a TSN that is **more than 605 flight hours**:
  . Do a visual check: refer to paragraphs 3.B.1. and 3.B.2. in less than **55 flight hours** after you received revision 2 of this ALERT SERVICE BULLETIN (refer to the issue date on the page footer).
  Then:
  . **Every 10 flight hours**, comply with paragraphs 3.B.1. and 3.B.2.
  Then:
  . **In less than 165 flight hours** after you received revision 2 of this ALERT SERVICE BULLETIN (refer to the issue date on the page footer), comply with paragraphs 3.B.1. and 3.B.3.
  Then:
  . **Every 660 flight hours**, comply with paragraphs 3.B.1. and 3.B.3.

1.E.2.c. For AS355 and AS555 helicopters:

- For helicopters or upper fin assembly with a TSN that is **less than or equal to 660 flight hours:**
  . Before exceeding 660 flight hours:
  .. Limit the VNE to 110 knots (203 km/h). Refer to Appendix 4.A.
  .. Locally make one or more labels. Refer to Appendix 4.B.
  .. Attach the locally made label(s) in the cockpit so that the limitations indicated on the label(s) are visible to the pilot and the copilot.

NOTE 8

The installer should identify the adequate position in the cockpit ensuring that the label(s) are in clear view of the pilot in command (for example instrument panel or in the overhead panel surrounding area). In case of doubt about correct positioning, contact airbus helicopters for advice at the address that follow:
Airbus world: technical request management
https://airbusworld.helicopters.airbus.com
email:support.technical-airframe.ah@airbus.com

.. Some maintenance flights, as defined in section 8.3 “Test Sheets” of the Flight Manual (FLM), require to fly beyond 110 kts (203 km/h). These maintenance flights are triggered by periodic checks or components replacement.
.. The test conditions listed in the FLM during which the 110 kts (203 km/h) limitation may be exceeded are:
- MCP (Maximum Continuous Power) level flight.
- VNE power-on.
- VNE power-off.

.. In case of need to perform such a maintenance flight requiring to fly beyond 110 kts (203 km/h), comply with paragraphs 3.B.1. and 3.B.2. before the maintenance flight and comply with paragraphs 3.B.1. and 3.B.3. before the next flight that follows the maintenance flight.
.. In the other cases of 110 Kts VNE exceedance, comply with paragraphs 3.B.1. and 3.B.2. before the next flight.

- For helicopters or upper fin assembly with a TSN that is **more than 660 flight hours**:
  . Within 7 days after you receive the Revision 3 of this ALERT SERVICE BULLETIN (refer to the issue date on the page footer):
  .. Limit the VNE to 110 knots (203 km/h). Refer to Appendix 4.A.
  .. Locally make one or more labels. Refer to Appendix 4.B.
  .. Attach the locally made label(s) in the cockpit so that the limitations indicated on the label(s) are visible to the pilot and the copilot.

NOTE 9

The installer should identify the adequate position in the cockpit ensuring that the label(s) are in clear view of the pilot in command (for example instrument panel or in the overhead panel surrounding area). In case of doubt about correct positioning, contact airbus helicopters for advice at the address that follow:
Airbus world: technical request management
https://airbusworld.helicopters.airbus.com
email:support.technical-airframe.ah@airbus.com

.. Some maintenance flights, as defined in section 8.3 “Test Sheets” of the FLM, require to fly beyond 110 kts (203 km/h). These maintenance flights are triggered by periodic checks or components replacement.

.. The test conditions listed in the FLM during which the 110 kts (203 km/h) limitation may be exceeded are:
- MCP level flight.
- VNE power-on.
- VNE power-off.

.. In case of need to perform such a maintenance flight requiring to fly beyond 110 kts (203 km/h), comply with paragraphs 3.B.1. and 3.B.2. before the maintenance flight and comply with paragraphs 3.B.1. and 3.B.3. before the next flight that follows the maintenance flight.

.. In the other cases of 110 Kts VNE exceedance, comply with paragraphs 3.B.1. and 3.B.2. before the next flight.

Non-installed equipment or parts:

Not applicable.

1.F. APPROVAL

The technical content of this document is approved under the authority of the Design Organization Approval ref. EASA. 21J.700.

The technical content of this document is approved under the prerogatives of the recognition of design capability ref. EMAR21J-015-DGA for French Government helicopters.

The technical content of this document is approved by Airbus Helicopters Airworthiness Department for export military versions.

1.G. MANPOWER

Airbus Helicopters recommends that the personnel who will do this ALERT SERVICE BULLETIN have these qualifications:

Qualification: 1 Airframe Technician for compliance with paragraph 3. or 1 Pilot with correct training and accreditation in compliance with the local regulation in force for compliance with paragraphs 3.B.1., 3.B.2. and 3.B.4.

The man-hours are an estimate given for information only and for a standard helicopter configuration.

Estimated Man-hours: Half hour for the 10-FH inspection.

1.H. WEIGHT AND BALANCE

There is no change in weight and moment.

1.I. POWER CONSUMPTION

Not changed.

1.J. SOFTWARE UPGRADES/UPDATES

Not applicable.

1.K. REFERENCES

These documents are necessary to comply with this ALERT SERVICE BULLETIN:

Maintenance Manual (MET):
Work Card: 33-41-00-501: Position Lights - Operation testing
Work Card: 55-00-00-601: Stabilizer - Checking

Aircraft Maintenance Manual (AMM):
Task: 33-41-00, 5-1a: Functional Tests - Position Lights PRE MOD 074280
Task: 33-41-00, 5-1b: Functional Tests - Position Lights POST MOD 074280
Task: 55-20-00, 6-2: Check - Upper and lower vertical stabilisers

Standard Practices Manual (MTC):
Work Card: 20-02-09-101: Crack detection - Crack detection through dye-penetrant inspection: General
Work Card: 20-02-09-601: Crack detection - Checking structural parts / components using the dye penetrant procedure
Work Card: 20-04-01-102: Cleaning - Use of cleaning products on individual parts and on aircraft
Work Card: 20-07-03-406: Technical instructions - Instructions applicable when working on an aircraft electrical circuit and power generating systems
Work Card: 20-07-03-408: Technical instructions - Appearance checks on an aircraft after an inspection or repair

Information Notice (IN):
IN: 3481-I-00: The Marketplace: an AirbusWorld eOrdering service
IN: 3785-I-00: Introduction of the digital Service Bulletin reporting service SB Insight

Safety Promotion Notice (SPN):
SPN: 3703-P-00: GENERAL - Foreign Object Damage prevention

1.L. OTHER AFFECTED PUBLICATIONS

The Flight Manual (FLM) will be updated.

1.M. PART INTERCHANGEABILITY OR MIXABILITY

This ALERT SERVICE BULLETIN has no effect on the interchangeability and mixability.

2. EQUIPMENT OR PARTS INFORMATION

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

Not applicable.

2.B. LOGISTIC INFORMATION

Not applicable.

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

Consumables to be ordered separately:

Refer to the Work Cards and Tasks identified in this ALERT SERVICE BULLETIN.

You can order the consumables from the AirbusWorld Marketplace through e-ordering (IN 3481-I-00).
If you cannot get access to e-ordering, please contact your Logistic Focal Point.

2.D. EQUIPMENT OR PARTS TO BE RETURNED

Not applicable.

3. ACCOMPLISHMENT INSTRUCTIONS

3.A. GENERAL

Comply with the general instructions on crack detection by dye-penetrant inspection, refer to Work Card 20-02-09-101 (MTC).

3.B. WORK STEPS

CAUTION

MAKE SURE THAT YOU PREVENT ALL POSSIBLE FOREIGN OBJECT DAMAGE (FOD). REFER TO SAFETY PROMOTION NOTICE (SPN) NO. 3703-P-00.

3.B.1. Preliminary steps

- Disconnect all electrical power supplies: refer to Work Card 20-07-03-406 (MTC).
- Install access equipment.

3.B.2. Visual inspection (Figure 1)

- Without removing the rear and the TGB fairings, visually check that there are no cracks on the RH side of spar (a) (see Figure 1) and if needed, clean the area, refer to Work Card 20-04-01-102 (MTC):

NOTE 1

A light source must be used to make the visual check easier.

. If you are not sure, remove the rear fairings and the TGB fairings to do a detailed inspection.
. Do a dye-penetrant inspection, refer to Work Card 20-02-09-601 (MTC):

.. If there are no cracks, leave as is.

.. If there are cracks, **before continuing flights**, get in communication with the Airbus Helicopters Customer Service Technical Support: refer to Note 2 to get a repair solution.

NOTE 2

Airbus Helicopters Customer Support contact data:
Tel: +33 (0)4.42.85.97.89
Fax: + 33 (0)4.42.85.99.66
E-mail: support.technical-airframe.ah@airbus.com
Keycopter: Technical Request Management
(TechnicalSupport.Helicopters@airbus.com)

- Do the final steps: refer to paragraph 3.B.4.

3.B.3. Cleaning and condition check (Figures 2 and 3)

- Remove the rear fairing from the tail boom.
- Remove the TGB fairing.
- Disconnect the cut-off connector of the tail position light.
- Clean (refer to Work Card 20-04-01-102 (MTC)):
  . The spar (a) (Figure 2)
  . Area Z (Detail A, Figure 2)
  . The heads of the attachment screws (b) (Detail B, Figure 2) of the upper fin.

- Do a visual check for cracks in the spar (a) of the top and bottom fins (see example of crack: refer to Figure 3): refer to Work Card 55-00-00-601 (MET) or Task 55-20-00, 6-2 (AMM):
  . If you are not sure, do a dye-penetrant inspection: refer to Work Card 20-02-09-101 (MTC):

CAUTION

PAY PARTICULAR ATTENTION TO THE 50 MM RADIUS, SEE AREA Z, DETAIL A.

  . If there are no cracks, leave as is.

  . If there are cracks, **before continuing flights**, contact the Airbus Helicopters Customer Service Technical Support: refer to Note 2.

- Check the integrity of the two thrust pad attachment screws (b) (Detail B, Figure 2):
  . If no damage is found, leave as is.

  . If damage is found, **before continuing flights**, contact the Airbus Helicopters Customer Service Technical Support: refer to Note 2.

- Connect the cut-off connector of the tail position light.
- Do a functional test: refer to Work Card 33-41-00-501 (MET) or Task 33-41-00, 5-1 (AMM).
- Install the TGB fairing.
- Install the rear fairing of the tail boom.
- Do the final steps: refer to paragraph 3.B.4.

3.B.4. Final steps

- Remove the access equipment.
- Connect all electrical power supplies.
- Do a check of the appearance of the helicopter: refer to Work Card 20-07-03-408 (MTC).

3.C. RECORD OF COMPLIANCE

Compliance with this document:

- Record first compliance with this ALERT SERVICE BULLETIN, with the revision number, in the helicopter documents.
- Record compliance with this ALERT SERVICE BULLETIN (see IN 3785-I-00 for instructions):
  QR code or hypertext link

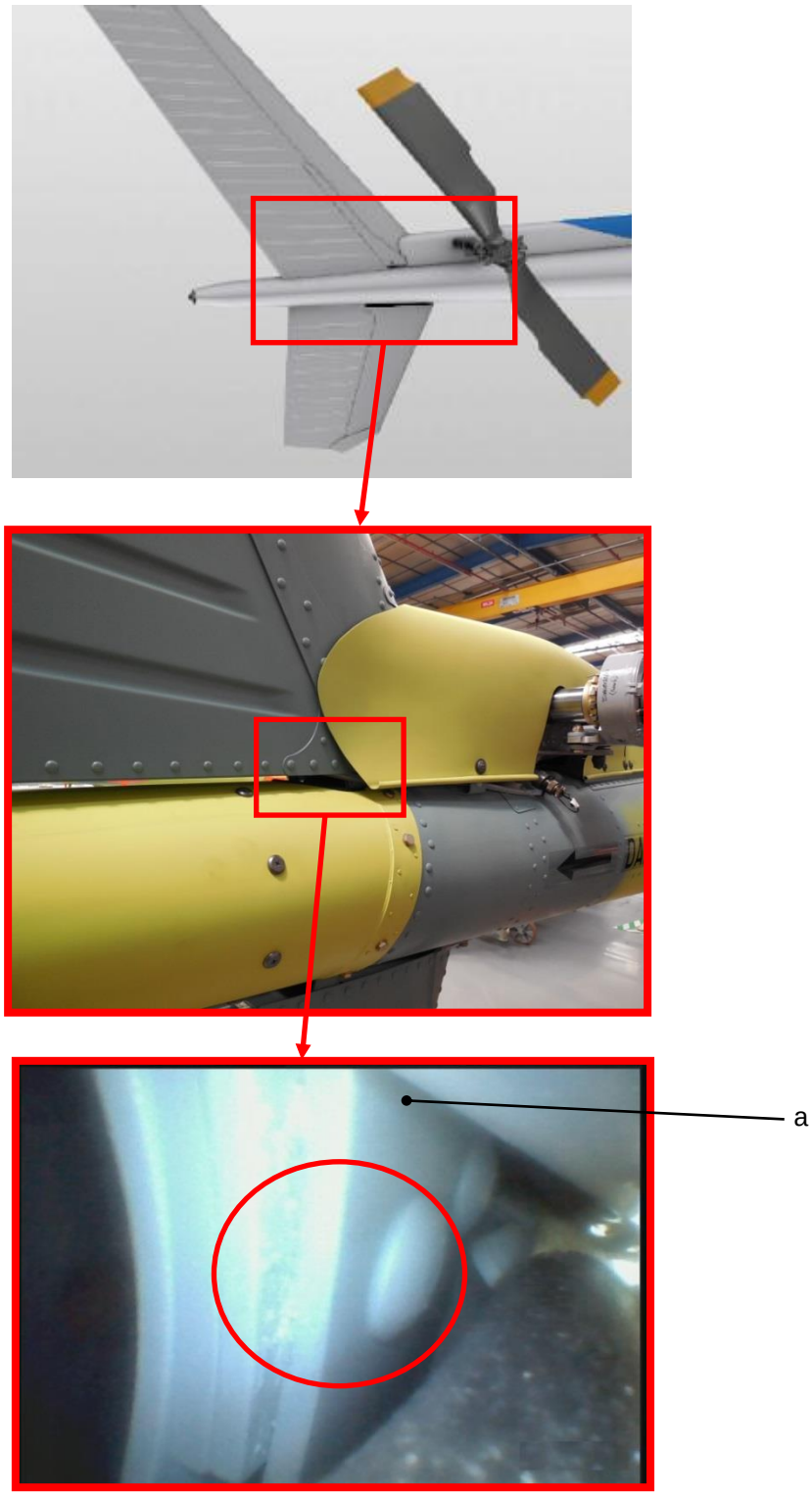
NOTE 3

The recording of compliance with ALERT SERVICE BULLETINS in the SB Insight tool does not replace the recording in the helicopter documents.

EASB AS350 05.00.90

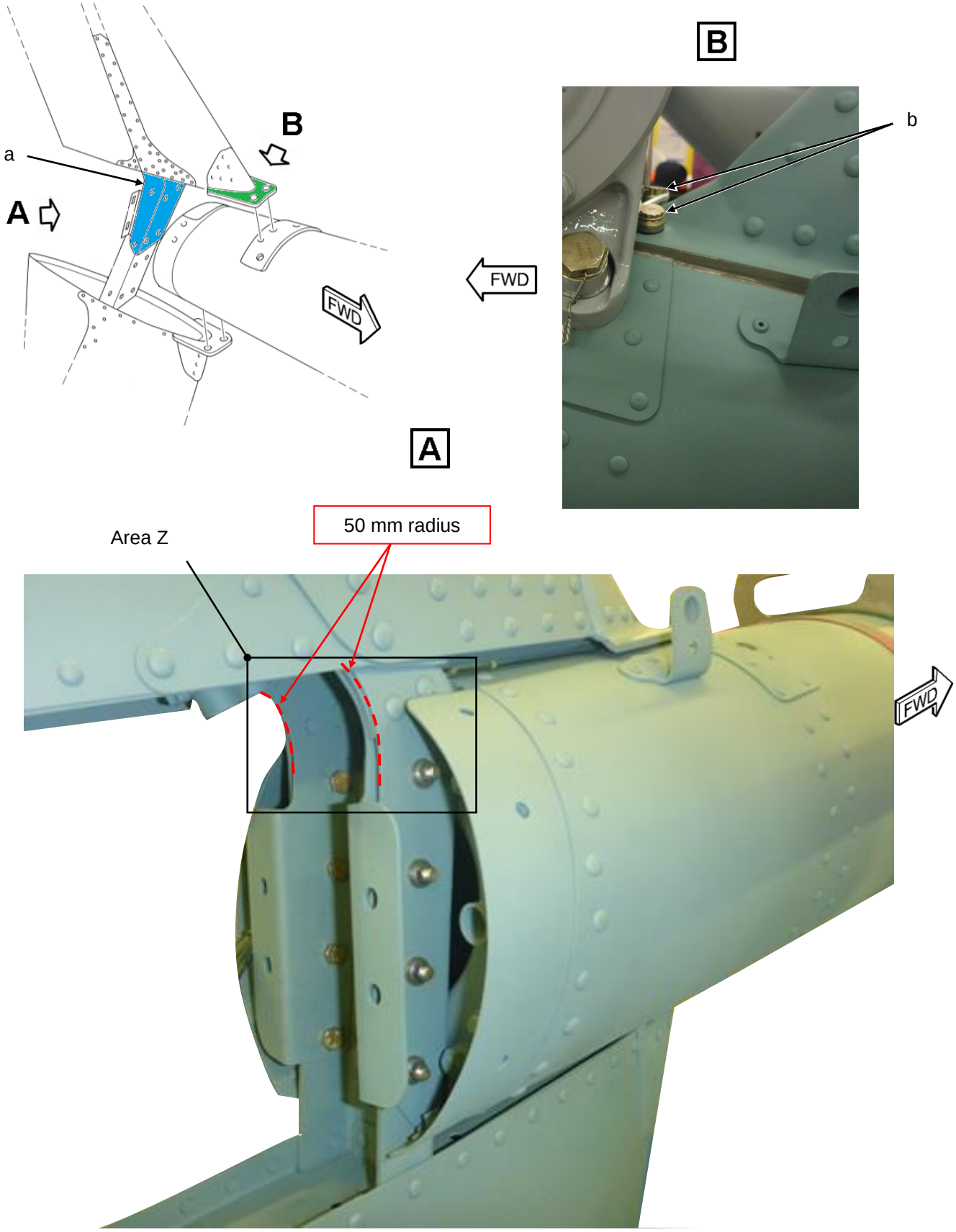
3.D. OPERATING AND MAINTENANCE INSTRUCTIONS

Not applicable.



Back to paragraph 3.B.2.

Figure 1: visual inspection



Back to paragraph 3.B.3.

Figure 2: definition of the inspection areas

Back to paragraph 3.B.3.

Figure 3: example of a crack in the spar of the upper fin

4. APPENDICES

4.A. COMPLIANCE TO THE VNE LIMIT

- **VNE Power-on:**

. VNE power-on: refer to Figure 4.

. From 0 ft to 16,000 ft (4876 m).....110 kt (203 km/h)
. Above 16,000 ft (4876 m)……...110 kt - 2.5 kt / 1,000 ft (4.6 km/h per 300 m) (pressure-altitude)

CAUTION

IN COLD WEATHER: WHEN OUTSIDE AIR TEMPERATURE (OAT) IS LESS THAN -35°C, SUBTRACT 10KT (19 KM/H) FROM THE VNE SPECIFIED ABOVE.

- **VNE Power-off:**

. VNE power-off: refer to Figure 4.

. From 0 ft to 4,000 ft (1219 m).....110 kt (203 km/h)
. Above 4,000 ft (1219 m).....110 kt - 2.5 kt / 1,000 ft (4.6 km/h per 300 m) (pressure-altitude)

CAUTION

IN COLD WEATHER, REDUCE THE VNE AS FOLLOWS: 20KT (37 KM/H) WHEN OAT IS BELOW -25°C, WITHOUT DROPPING BELOW 65KT (120 KM/H).

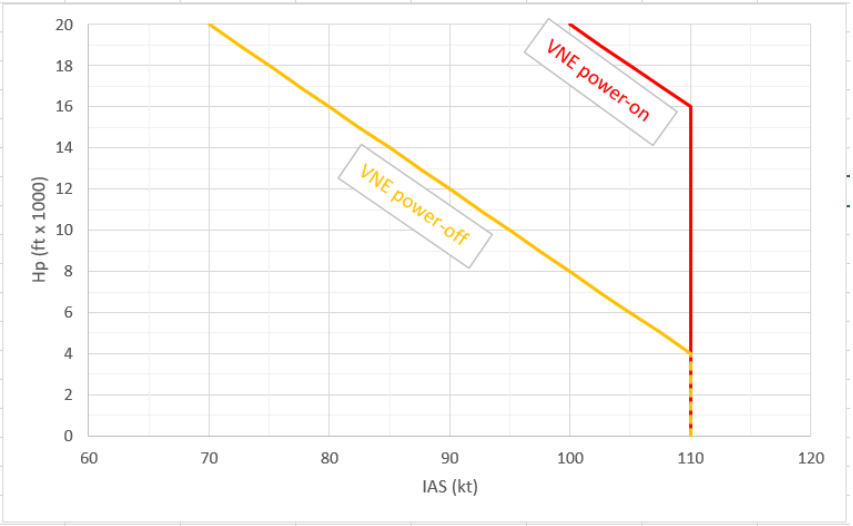


Figure 4

For memory:
. For AS355 versions E; F;F1; F2 and AS555 versions AF; UF helicopters:
Maximum pressure-altitude (substantiated).....16 000 ft (4875m)

. For AS355 versions N;NP and AS555 versions AN; AP; SN; UN helicopters:
Maximum pressure-altitude (substantiated).....20 000 ft (6096m)

4.B. LOCALLY MADE LABEL

Characteristics of the locally made label (1) or (2) or (3):
- Font in white color with a red background or in red color with a white background for civil versions.
- Font in black color with a yellow background for military versions.
- Font size more than or equal to: 4 mm (.157 in).
- The locally made label (1) or (2) or (3) must not be easily erasable.
- The locally made label (1) or (2) or (3) must not be easily damageable.
- The text is given in English but can be translated into another language, as per the local regulations in force.

- Example of locally made label:

1

VNE Power-on:
From 0 ft to 16,000 ft……..……..……110 kt
Above 16,000 ft……...110kt - 2.5 kt/1,000 ft (pressure-altitude)

VNE Power-off:
From 0 ft to 4,000 ft……..……110 kt
Above 4,000 ft…….110 kt - 2.5 kt/1,000 ft (pressure-altitude)

2

VNE Power-on:
From 0 ft to 16,000 ft……..……110 kt
Above 16,000 ft……...110kt - 2.5 kt/1,000 ft (pressure-altitude)

VNE Power-off:
From 0 ft to 4,000 ft……...110 kt
Above 4,000 ft…….110 kt - 2.5 kt/1,000 ft (pressure-altitude)

3

VNE Power-on:
From 0 ft to 16,000 ft……..……110 kt
Above 16,000 ft……...110kt - 2.5 kt/1,000 ft (pressure-altitude)

VNE Power-off:
From 0 ft to 4,000 ft……110 kt
Above 4,000 ft……...110 kt - 2.5 kt/1,000 ft (pressure-altitude)