
SERVICE BULLETIN**N° 189-243****DATE:** October 29, 2019**REV. :** A - July 9, 2020

TITLE**ATA 62 - MAIN ROTOR (MR) BLADE TIP INSPECTION****REVISION LOG**

Revision A has been issued to modify the SB effectivity.

MR blades equipped with the new swept tip P/N 8G6210L00151 do not require the inspection of the blade tip as prescribed in this SB.

For this reason, these blades were removed from the effectivity field. The new swept tip will be installed on both brand new blades and in-service blades (through SB 189-215 rev.B).

Revision bars identify changes.

1. PLANNING INFORMATION

A. EFFECTIVITY

Part I

All MR blades P/N 4F6210A00132 and FIPS MR blade P/N 8G6210A00131 not already equipped with swept tip erosion shield P/N 8G6210L00151 or equivalent productive P/N 8G6210L00151AF and not already compliant with SB189-196 Part II or SB189-242.

Part II

All MR blades P/N 4F6210A00132 and FIPS MR blade P/N 8G6210A00131 not already equipped with swept tip erosion shield P/N 8G6210L00151 or equivalent productive P/N 8G6210L00151AF and already compliant with SB189-196 Part II or SB189-242.

Part III

All MR blades P/N 4F6210A00132 and FIPS MR blade P/N 8G6210A00131 not already equipped with swept tip erosion shield P/N 8G6210L00151 or equivalent productive P/N 8G6210L00151AF and already compliant with SB189-196 Part II or SB189-242.

B. COMPLIANCE

Part I

For MR blades not already compliant with SB189-196:

- MR blade installed on helicopters and having accumulated at least 100 flight hours, Time Since New (TSN):
within 100 flight hours after the issue of this Service Bulletin or within 200 flight hours TSN, whichever occurs later. Then recurrent every 50 flight hours from first compliance with Part I.
- MR blades kept in stock:
within 100 flight hours from first re-installation on helicopter and then recurrent every 50 flight hours from first compliance with Part I.

For MR blades already compliant with SB189-196 Part I:

- Every 50 flight hours from last compliance with SB189-196 Part I.

Part II

Every 100 flight hours after compliance with SB189-196 Part II or SB189-242.

Part III

Every 400 flight hours after compliance with SB189-196 Part II, SB189-242 or if required after compliance with Part II of this Service Bulletin.

C. CONCURRENT REQUIREMENTS

This SB supersedes and replaces the SB189-196.

D. REASON

This Service Bulletin is issued in order to provide the necessary instructions on how to perform the visual inspection of the state of caulking and sealing if damaged.

E. DESCRIPTION

On the AW 189 MR blade it has been experienced some occurrences about filler-caulking eroded below forward edge between tip cap erosion shield and swept tip erosion shield. This Service Bulletin has been issued in order to prescribe a set of inspections and corrective actions to restore existing filler-caulking.

Part I

This part gives instructions to check the filler-caulking condition and to restore the correct sealing in case a damage is found.

Part II

For blades equipped with protective tape (installed with SB189-196 Rev./ or SB189-242), this part gives instructions to perform an inspection of protective tape and of silicone adhesive sealing condition. Moreover it gives indication to restore the polyurethane protective tape installation if necessary.

Part III

This part gives instructions to replace the polyurethane protective tape applied to the filler caulking area every 400 flight hours.

F. APPROVAL

The technical content of this Service Bulletin is approved under the authority of DOA nr. EASA.21.J.005. For helicopters registered under other Aviation Authorities, before applying the Service Bulletin, applicable Aviation Authority approval must be checked within Leonardo Helicopters customer portal.

EASA states mandatory compliance with inspections, modifications or technical directives and related time of compliance by means of relevant Airworthiness Directives. If an aircraft listed in the effectivity embodies a modification or repair not LHD certified and affecting the content of this Service Bulletin, it is responsibility of the Owner/Operator to obtain a formal approval by Aviation Authority having jurisdiction on the aircraft, for any adaptation necessary before incorporation of the present Service Bulletin.

G. MANPOWER

To comply with this Service Bulletin the following Maintenance-Man-Hours (MMH) are deemed necessary:

Part I: approximately one (1) MMH

Part II: approximately 0.5 MMH.

Part III: approximately one (1) MMH for each MR blade

MMH are based on hands-on time and can change with personnel and facilities available.

H. WEIGHT AND BALANCE

N.A.

I. REFERENCES

1) PUBLICATIONS

<u>DATA MODULE</u>	<u>DESCRIPTION</u>	<u>PART</u>
DM01 89-A-00-20-00-00A-120A-A	Helicopter on ground for a safe maintenance.	All
DM02 89-A-62-11-01-00A-310A-A	Main Rotor Blade - General visual inspection	I, II
DM03 89-A-62-11-01-01A-663A-B	Main rotor blade - Filler - Standard repair procedure	I, II

2) ACRONYMS

AMDI	Aircraft Material Data Information
AMP	Aircraft Maintenance Publication
DM	Data Module
DOA	Design Organization Approval
EASA	European Aviation Safety Agency
LHD	Leonardo Helicopter
MMH	Maintenance Man Hours
MR	Main Rotor
TSN	Time Since New

3) ANNEX

N.A.

J. PUBLICATIONS AFFECTED

N.A.

K. SOFTWARE ACCOMPLISHMENT SUMMARY

N.A.

2. MATERIAL INFORMATION

A. REQUIRED MATERIALS

1) PARTS

Refer to AW189 IPD for the spares materials required to comply with the AMP DMs referenced in the accomplishment instructions.

2) CONSUMABLES

The following consumable materials, or equivalent, are necessary to accomplish this Service Bulletin:

#	Spec./LHD code number	DESCRIPTION	Q.TY	NOTE	PART
1	TT-N-95, Type II	Aliphatic naphtha (C059)	AR	(1)	III
2	TT-I-735, Grade A.	Isopropyl alcohol (C039)	AR	(1)	III
3		Abrasive paper (240 - 320)	AR	(1)	III
4		Lint-free cloth (C011)	AR	(1)	III
5	Commercial / Code No. 7100019177	Polyurethanic Protective tape 8542HS	AR	(1)(2)(3)	III
6	Code No. 99999999000002749	Silicone adhesive ES-2000 (C197)	AR	(1)	III
7	WHPS685 Type 29	Filler DP410 (C523)	AR	(1)(4)	III
8	Commercial	3M Adhesion Promoter 86A (C198)	AR	(1)	III

Refer also to AMDI for the consumable materials required to comply with the AMP DM referenced in the accomplishment instructions.

3) LOGISTIC MATRIX

N.A.

NOTE

- (1) Item to be procured as local supply.
- (2) Polyurethanic Protective tape 8671HS can be used as a valid alternative.
- (3) Minimum width required 160mm.
- (4) Item to be used as alternative to Silicone adhesive ES-200.

B. SPECIAL TOOLS

N.A.

C. INDUSTRY SUPPORT INFORMATION

Warranty: N.A.

3. ACCOMPLISHMENT INSTRUCTIONS

GENERAL NOTES

- a) Place an identification tag on all components that are re-usable, including the attaching hardware that has been removed to gain access to the modification area and adequately protect them until their later re-use.
- b) Let adhesive cure at room temperature for at least 24 hours unless otherwise specified.
- c) All lengths are in mm.

PART I

1. In accordance with AMP DM 89-A-00-20-00-00A-120A-A, prepare the helicopter on ground for a safe maintenance. Disconnect the battery, all electrical power sources and/or the external power supply.
2. With reference to Figure 1, Detail A, and Figure 2 and in accordance with applicable steps of AMP DM 89-A-62-11-01-00A-310A-A, perform a visual inspection of the tip cap area of each MR blade.
3. With reference to Figure 2 and in accordance with AMP DM 89-A-62-11-01-01A-663A-B, if the caulking between tip erosion shield and tip swept erosion shield is not in good condition perform the procedure to restore it. Otherwise, skip to Step 4.
4. Return the helicopter to flight configuration and record for compliance with Part I of this Service Bulletin on the helicopter logbook.
5. Send the attached compliance form to the following mail box:

engineering.support.lhd@leonardocompany.com

As an alternative, gain access to My Communications section on Leonardo WebPortal and compile the "Service Bulletin Application Communication".

PART II

1. In accordance with AMP DM 89-A-00-20-00-00A-120A-A, prepare the helicopter on ground for a safe maintenance. Disconnect the battery, all electrical power sources and/or the external power supply.
2. With reference to Figure 4, get access to the MR blades to be checked and perform a visual inspection of the polyurethane protective tape installed on the filler and of the silicon adhesive sealing.
3. Make sure that the protective tape is in good condition and the silicon adhesive is not damaged.
4. If the previous conditions are not verified, replace the polyurethane tape in accordance with instructions given in Part III of this Service Bulletin. Otherwise skip to step 5.
5. Return the helicopter to flight configuration and record for compliance with Part III of this Service Bulletin on the helicopter logbook.
6. Send the attached compliance form to the following mail box:

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PART III

1. In accordance with AMP DM 89-A-00-20-00-00A-120A-A, prepare the helicopter on ground for a safe maintenance. Disconnect the battery, all electrical power sources and/or the external power supply.
2. Remove all the polyurethane protective tape patches that must be replaced from the MR blades in accordance with the following procedure:

CAUTION

Pay attention not to damage the composite material.

- 2.1 Carefully lift the protective tape patch with a plastic scraper. To do this start from one of the corners. Remove the protective tape patch from the main rotor blade.
- 2.2 Remove the protective tape patch traces from the main rotor blade with a lint-free cloth (C011) and isopropyl alcohol (C039).
3. Apply a new protective tape 8542HS patch where necessary in accordance with the following procedure:
 - 3.1 Print the template reported Figure 3 with its real dimensions on an A4 size paper sheet; check the dimensions after the printing.
 - 3.2 Cut the polyurethane protective tape 8542HS using the template printed.
 - 3.3 Clean the MR blade tip surface with a lint-free cloth and aliphatic naphtha (C059). Dry with the compressed air.
 - 3.4 With reference to Figure 4, lay the patch, before removing the paper liner, on the upper surface of the blade. Position the outer side of the tape at 155 mm from the blade tip as shown.
 - 3.5 Apply masking tape on the surfaces where you do not apply the polyurethane tape.

CAUTION

Pay attention not to damage the underneath composite material.

- 3.6 Gently sand the paint on the polyurethane tape application surface of the blade with 220 or 240 grit abrasive paper.
- 3.7 Remove the masking tape from the blade. Wipe the sanded surface with a lint-free cloth (C011) and aliphatic naphtha (C059) until there is no trace of residue. Dry with the compressed air.

NOTE

If ambient temperature is greater than 30 °C drying time shall be reduced to 5 - 10 minutes.

NOTE

Apply the adhesion promoter one time only. Wear a glove during application and discard it at operation completion to avoid contamination of the tape adhesive.

- 3.8 Apply the Adhesion Promoter 86A with a lint-free cloth on the prepared surfaces and let dry for 10 - 15 minutes.
- 3.9 Spray a solution of clean water at 75% and isopropyl alcohol (C039) at 25% on the blade prepared surfaces. This prevents the polyurethane protective tape from sticking immediately to the surfaces, and allows its correct alignment.
- 3.10 Remove the paper liner from the tape patch. Spray a solution clean water at 75% and isopropyl alcohol (C039) at 25% on the adhesive side of the protective tape patch.
- 3.11 Apply the polyurethane tape on the MR blade tip starting from the leading edge. Use a plastic scraper to apply the tape correctly, if necessary.

NOTE

If air bubbles are entrapped below the tape, use one of the two following methods to remove it:

- Punch the bubble with a syringe and then use a spatula to push out entrapped air (preferred method).
- Lift the tape to release the air. Then put it again in its correct position.

- 3.12 Let the protective tape patch dry for a minimum of 4 hours.
 - 3.13 Apply masking tape around the patch to protect the main rotor blade surface during silicone adhesive application.
 - 3.14 Apply a bead of silicone adhesive ES-2000 (C197) around the protective tape patch with the manual gun (P/N EPX38/50). Then, immediately flush each bead of seal compound with a plastic scraper. Let the silicone adhesive to become hard.
 - 3.15 Remove the masking tape from the blade.
4. Return the helicopter to flight configuration and record for compliance with Part III of this Service Bulletin on the helicopter logbook.

5. Send the attached compliance form to the following mail box:

engineering.support.lhd@leonardocompany.com

As an alternative, gain access to My Communications section on Leonardo WebPortal and compile the “Service Bulletin Application Communication”.

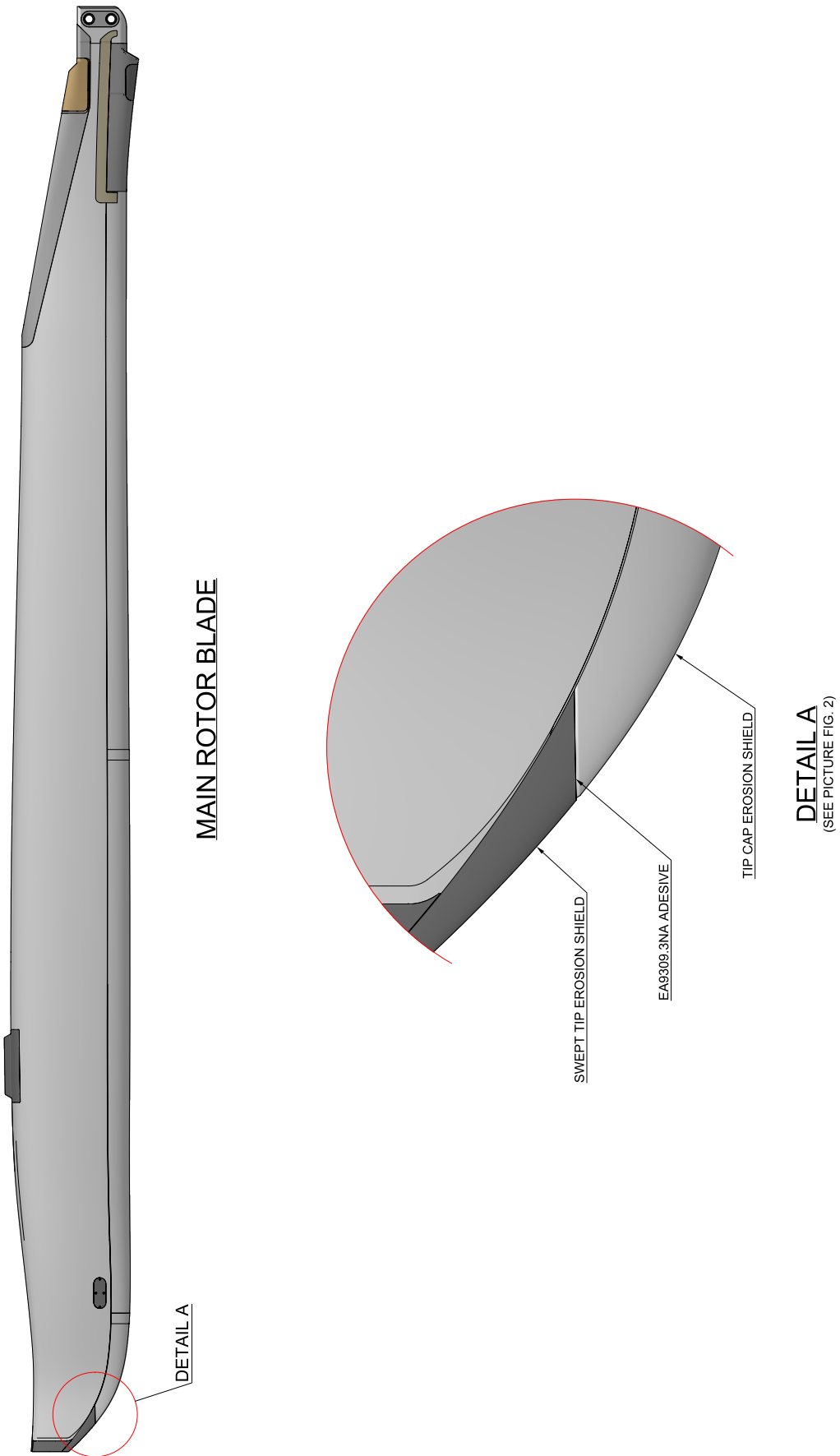


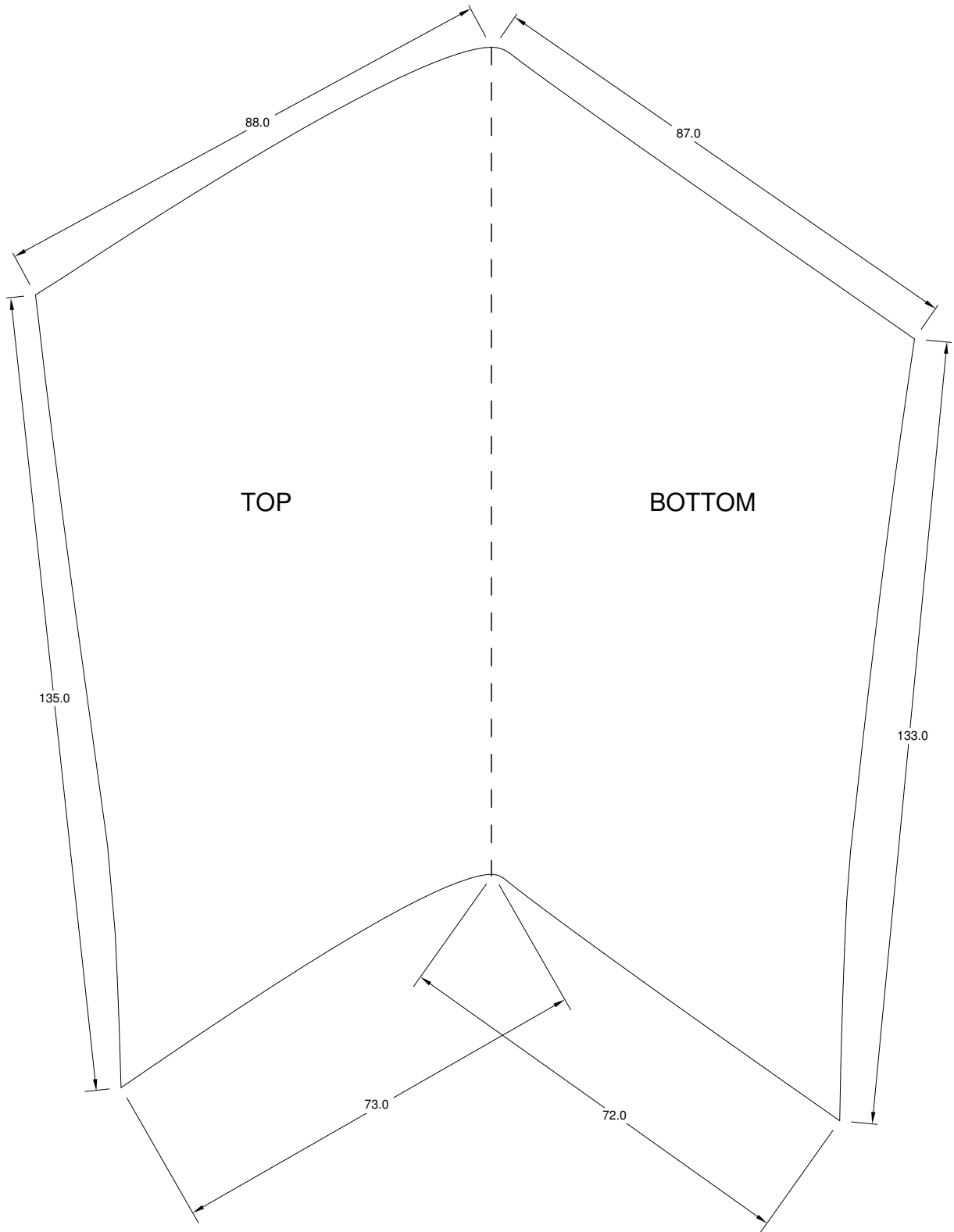
Figure 1

Typical filler / caulking eroded below forward edge between
tip cap erosion shield and swept tip erosion shield.



See Detail A Figure 1.

Figure 2



FLATTENED TAPE SHAPE
SCALE 1:1

Print this template with its real dimensions on an A4 size paper sheet. Check the dimensions after printing.

Figure 3

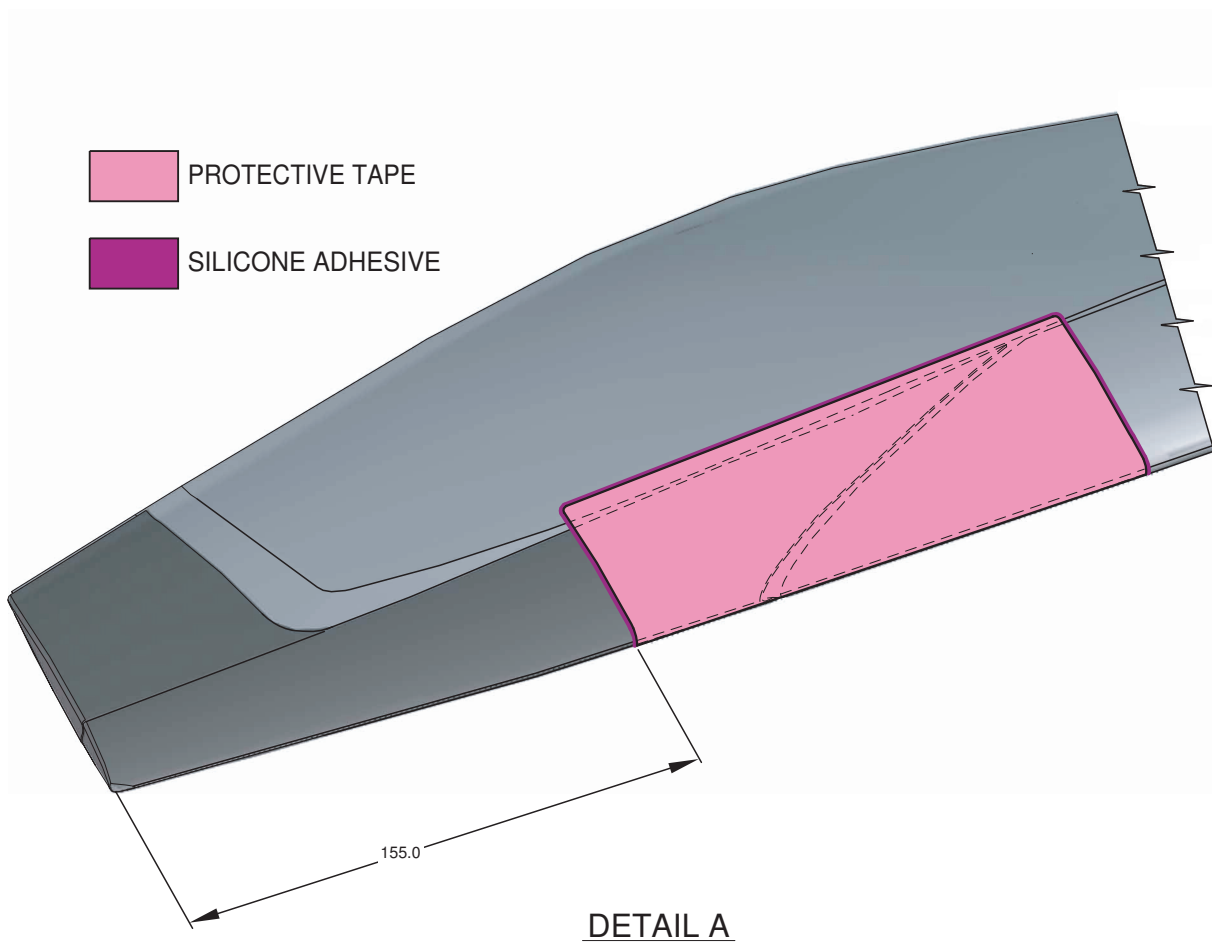
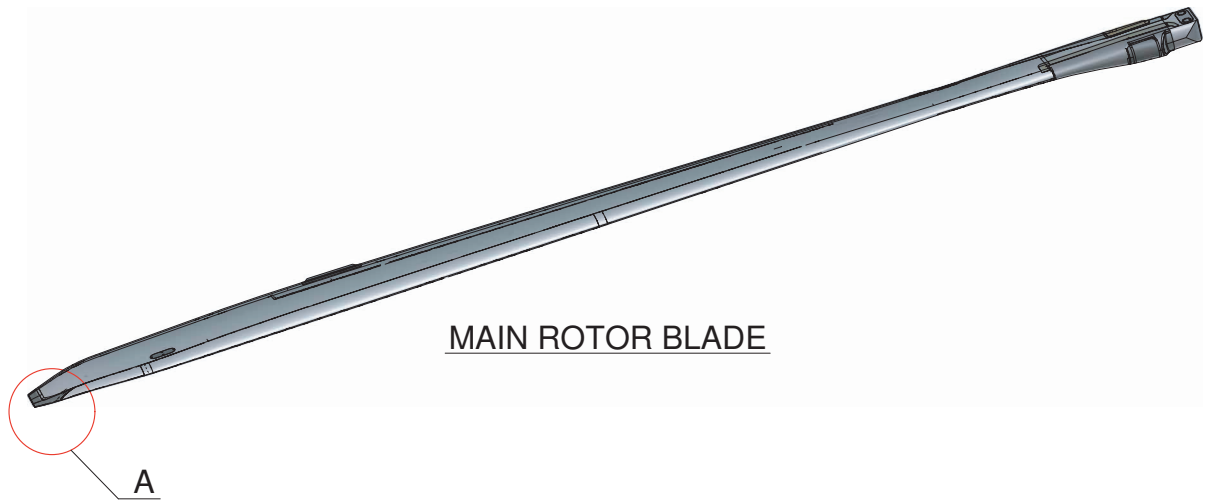


Figure 4

Please send to the following address: LEONARDO S.p.A. CUSTOMER SUPPORT & SERVICES - ITALY PRODUCT SUPPORT ENGINEERING & LICENSES DEPT. Via Giovanni Agusta, 520 21017 Cascina Costa di Samarate (VA) - ITALY Tel.: +39 0331 225036 Fax: +39 0331 225988	SERVICE BULLETIN COMPLIANCE FORM	Date:
Number:		
Revision:		

Customer Name and Address:	Telephone:
	Fax:
	B.T. Compliance Date:

Helicopter Model	S/N	Total Number	Total Hours	T.S.O.

Remarks:

Information:

We request your cooperation in filling this form, in order to keep out statistical data relevant to aircraft configuration up-to-date. The form should be filled in all its parts and sent to the above address or you can communicate the application also via Technical Bulletin Application Communication Section placed in Leonardo AW Customer Portal - MyCommunications Area. We thank you beforehand for the information given.