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AgustaWestland Products

SERVICE BULLETIN

N° 189-242

**DATE:** October 29, 2019

**REV. :** A - July 9, 2020

# TITLE

**ATA 62 - MAIN ROTOR (MR) BLADE TAPE INSTALLATION**

# REVISION LOG

Revision A has been issued to modify the SB effectivity.

The protective tape to be installed through this SB is not applicable to the MR Blades equipped with the new swept tip P/N 8G6210L00151.

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

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.

## B. COMPLIANCE

At Customer's option.

## C. CONCURRENT REQUIREMENTS

N.A.

## D. REASON

This Service Bulletin is issued in order to provide the necessary instructions on how to apply a polyurethane protective tape on the filler caulking between tip cap erosion shield and swept tip erosion shield.

## 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. As preventive action a visual inspection of the filler-caulking has been scheduled every 50 FH (refer to SB189-243).

This Service Bulletin has been issued in order to give instructions to apply a polyurethane protective tape on the filler caulking between tip cap erosion shield and swept tip erosion shield. The tape will protect the filler caulking underneath and prevent further occurrences of damages. Moreover, MR blades equipped with protective tape has an inspection interval of 100 FH instead of 50 FH as specified in SB189-243.

With respect to protective tape application detailed in SB189-196, in this SB the tape to be used offers better adhesion thanks to the use of an adhesion promoter and a better resistance to adverse weather condition.

## 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 approximately one (1) MMH for each MR blade is deemed necessary:

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

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

### 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 Helicopters Division |
| MMH | Maintenance Man Hours |
| MR | Main Rotor |

### 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) | - |
| 2 | TT-I-735, Grade A. | Isopropyl alcohol (C039) | AR | (1) | - |
| 3 | | Abrasive paper (240 - 320) | AR | (1) | - |
| 4 | | Lint-free cloth (C011) | AR | (1) | - |
| 5 | Commercial / Code No. 7100019177 | Polyurethanic Protective tape 8542HS | AR | (1)(2)(3) | - |
| 6 | Code No. 999999999000002749 | Silicone adhesive ES-2000 (C197) | AR | (1) | - |
| 7 | WHPS685 Type 29 | Filler DP410 (C523) | AR | (1)(4) | - |
| 8 | Commercial | 3M Adhesion Promoter 86A (C198) | AR | (1) | - |

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

Product improvement.

# 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.

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. If MR blades are already compliant with SB189-196 Part II, remove all the polyurethanic protective tape patches 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 trace from the main rotor blade with a lint-free cloth (C011) and isopropyl alcohol (C039).

3. With reference to Figure 1 and Figure 2 perform the following procedure.

3.1 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.

3.2 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. With reference to Figures 1 and 2, apply to the filler caulking area of each blade the protective tape 8542HS in accordance with the following procedure.

4.1 Print the template reported in Figure 1 with its real dimensions on an A4 size paper sheet; check the dimensions after the printing.

4.2 Cut the polyurethane protective tape 8542HS using the template printed.

4.3 Clean the MR blade tip surface with a lint-free cloth and aliphatic naphtha (C059). Dry with the compressed air.

4.4 With reference to Figure 2, 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.

4.5 Apply masking tape on the surfaces where you do not apply the polyurethane tape.

**CAUTION**

Pay attention not to damage the underneath composite material.

4.6 Gently sand the paint on the polyurethane tape application surface of the blade with 220 or 240 grit abrasive paper.

4.7 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.

4.8 Apply the Adhesion Promoter 86A with a lint-free cloth on the prepared surfaces and let dry for 10 - 15 minutes.

4.9 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.

4.10 Remove the paper liner from the tape patch. Spray a solution of clean water at 75% and isopropyl alcohol (C039) at 25% on the adhesive side of the protective tape patch.

4.11 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.

4.12 Let the protective tape patch dry for a minimum of 4 hours.

4.13 Apply masking tape around the patch to protect the main rotor blade surface during silicone adhesive application.

4.14 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.

4.15 Remove the masking tape from the blade.

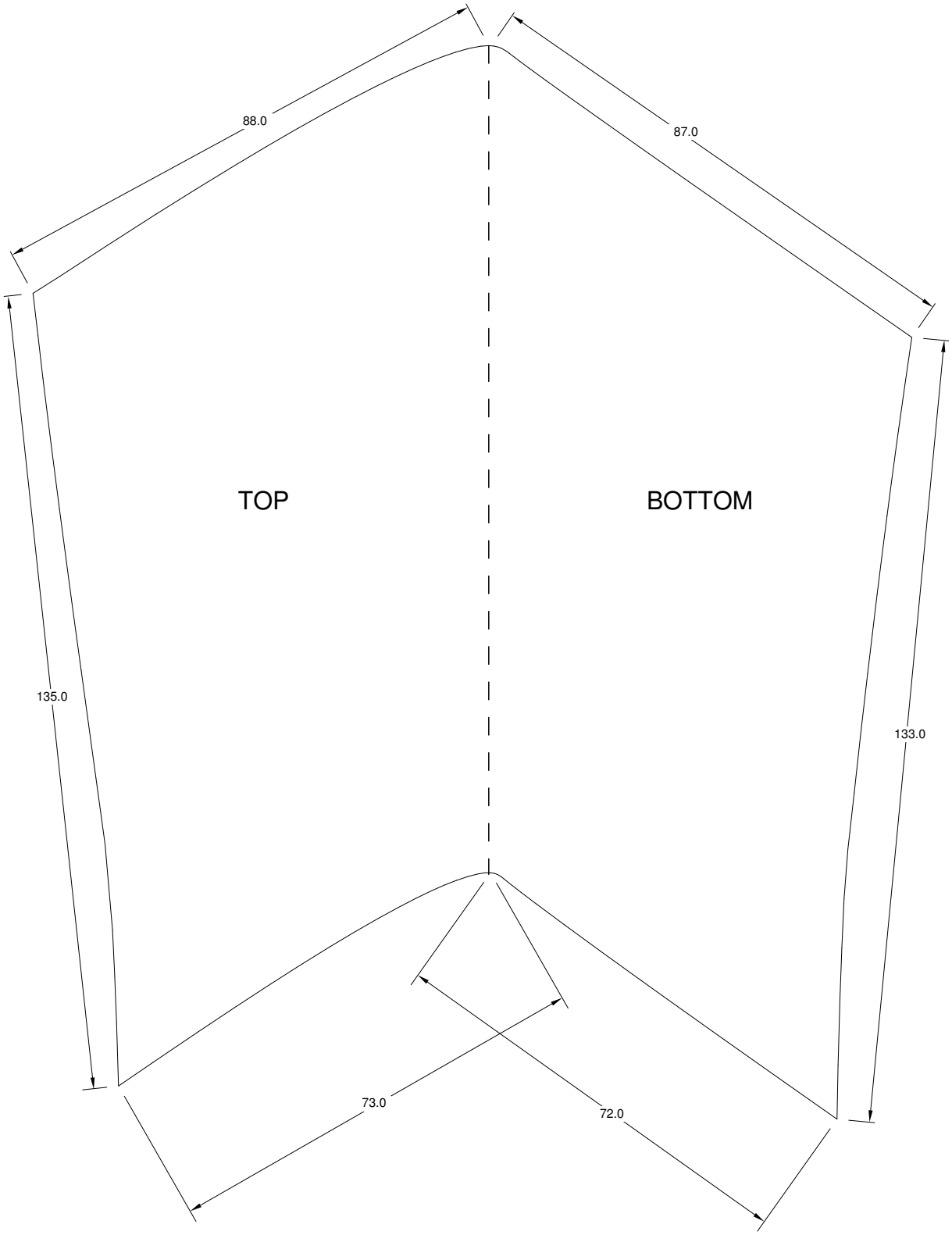
4.16 Do again steps 4.3 to 4.15 for the all the other MR blades.

5. Return the helicopter to flight configuration and record for compliance with this Service Bulletin on the helicopter logbook.

6. 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”.

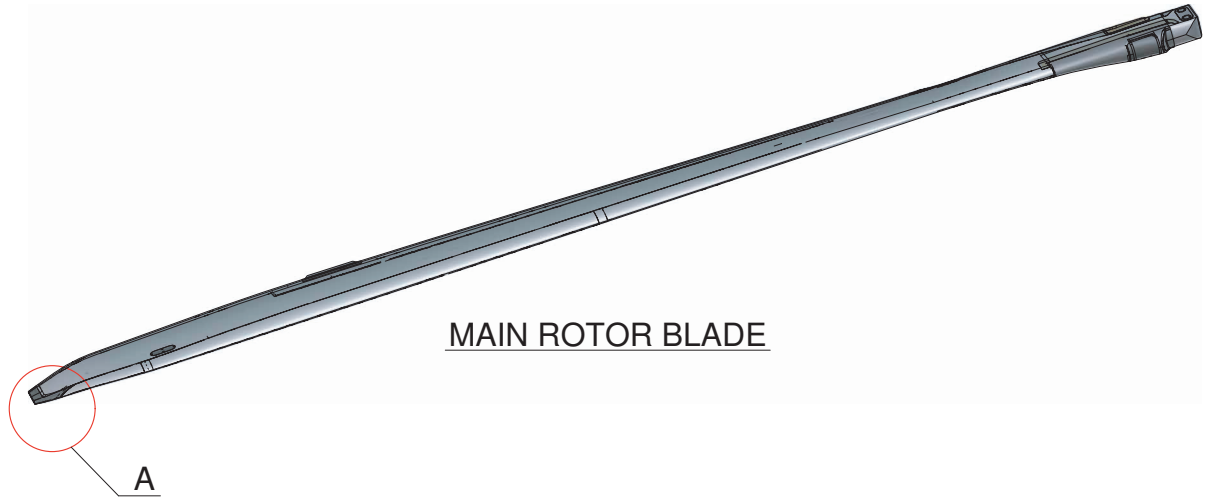



FLATTENED TAPE SHAPE

SCALE 1:1

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

**Figure 1**


MAIN ROTOR BLADE
A

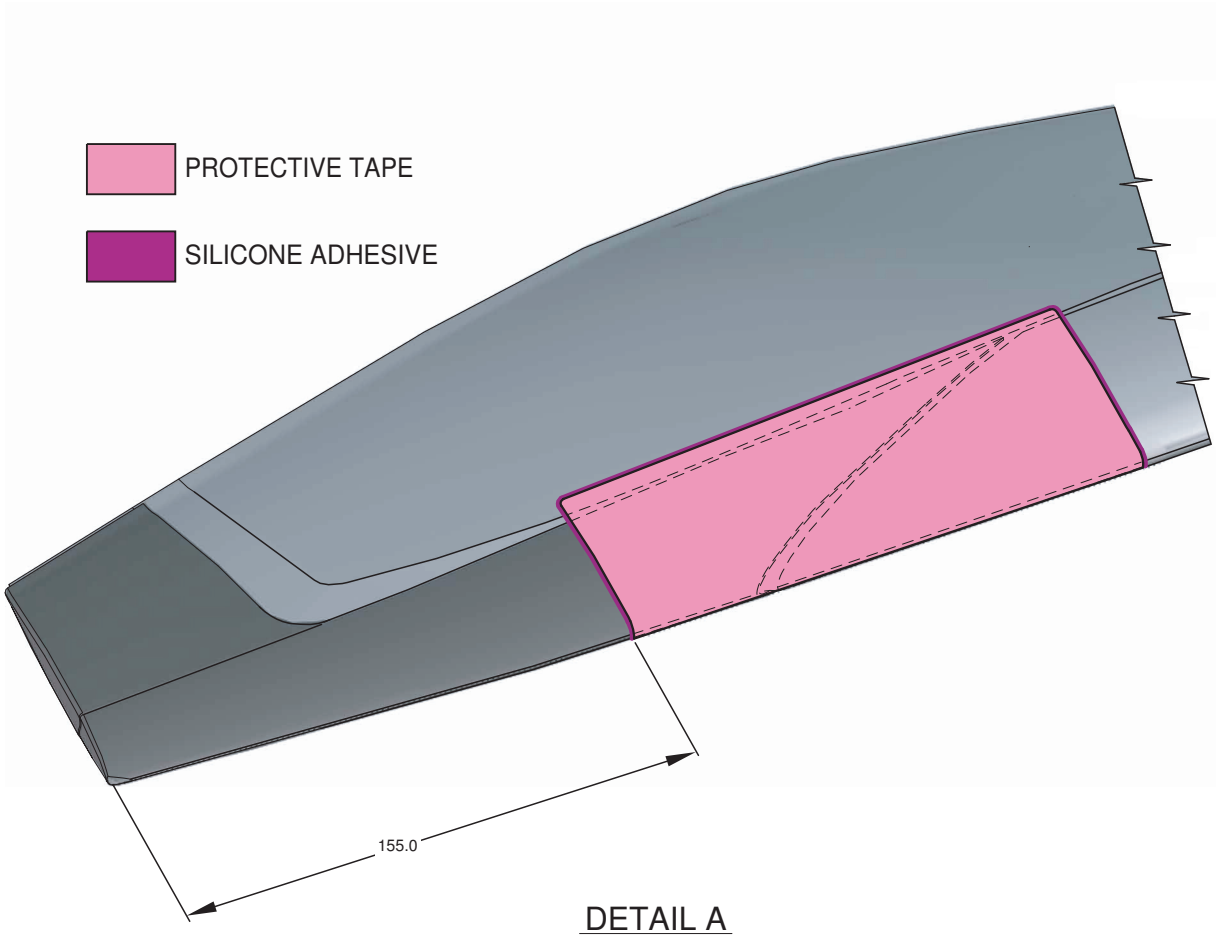

PROTECTIVE TAPE
SILICONE ADHESIVE
155.0
DETAIL A

**Figure 2**

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| Please send to the following address:<br><br>**LEONARDO S.p.A.**<br>**CUSTOMER SUPPORT & SERVICES - ITALY**<br><br>**PRODUCT SUPPORT ENGINEERING & LICENSES DEPT.**<br>Via Giovanni Agusta, 520<br>21017 Cascina Costa di Samarate (VA) - ITALY<br>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. |
|---|---|---|---|---|
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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.