

SERVICE BULLETIN No. A298 72 0837

MANDATORY
ALERT

Version: B

Date: 19 December 2023

Reason for update: Update of the Appendix 1 for correction of some S/Ns of 1st and 2nd stage HP turbine discs.

☐ Modification

☐ Periodical action

☒ One-off action

Applicable from:
"As soon as this
Mandatory SB is
issued"

Subject:
Module M02 and module M03 - Correction of the cycle count on
some life-limited parts.

APPLICABLE ENGINE / VARIANT(S)	EFFECTIVITY CODE	MAINTENANCE LEVEL	CONDITION OF APPLICATION	EFFECT ON OPERATION
MAKILA 1 A, A1, A2, K2	1-A	1, 2, 3	Within 30 days or 10 flight hours following this Mandatory SB publication (first limit reached): Check the presence of the life-limited parts given in the Appendix 1 in modules M02 and M03 of your fleet and calculate the new cyclic availability of the applicable modules.	
		4	Application prior to delivery	

Application of this Mandatory SB is the result of a technical requirement that can have an effect on flight safety for engines in service. The application of this SB is specified by the effectivity code given above.

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§1.GENERAL

§2.LEVEL 1, 2

§3.LEVEL 3

§4.LEVEL 4

§5.CERTIFICATES

1. GENERAL
1.1. Background
1.1.1. Context

A MAKILA 1 A1 operator found a deviation between his implemented cycle counting method for gas generator and the procedure referenced in the MAKILA 1 A1 Maintenance Manual, task 05-10-02-200-801.

1.1.2. Analysis

The method implemented by this operator results in undercounted gas generator cycles. Therefore, it is necessary to make a correction for Life-Limited Parts (LLP) used by this operator.

Those LLP could have been installed on modules and engines of other fleets (through standard exchanges).

1.1.3. Solution

The LLP which were subject to cycles undercounting, are listed in the Appendix 1 of this Mandatory SB. For each applicable parts, the number of consumed gas generator cycles to be added is also given herein.

The new value of consumed gas generator cycles must be recorded on the log card of the module that includes the LLP.

The remaining cycles of each of the parts must be re-evaluated based on the new value of consumed gas generator cycles and of the Authorized in-Service Life Limit (ASLL) declared in the Maintenance Manual of the applicable variant, task 05-10-01-200-801.

These new remaining cycles values must be recorded on the log card of the module that includes the LLP.

For the cases where the LLP life limit is exceeded, the modules will have to be returned to a Safran Helicopter Engines approved repair center, in accordance with the instructions described in paragraphs 2.5 and 2.6.

1.2. Approval

- MAKILA 1 A - A1 - A2 variants:

The technical content of this document is approved under the authority of the DOA (Design Organisation Approval) ref. EASA.21J.070.

This Mandatory SB is subject to an EASA Airworthiness Directive.

To be noted that a DGA Airworthiness Directive has been issued for the MAKILA 1 A1 modules listed in Appendix 2.

- MAKILA 1 K2 variant:

The technical information given in this document is approved by Safran Helicopter Engines.

1.3. Summary of updates

Version	Date	Primary cause for update
A	15-NOV-2023	First issue

End of Section §1
“General”

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2. PROCEDURE DONE AT THE OPERATOR'S SITE OR AT A MAINTENANCE CENTER APPROVED FOR LEVEL 1, 2**2.1. Manpower**

Not applicable.

2.2. Tools / Parts

Mechanic's standard tools.

2.3. Parts information**2.3.1. Basic information**

Not applicable.

2.3.2. List of parts

Not applicable.

2.3.3. Supply conditions

Not applicable.

2.4. Procedures

For each of the applicable life-limited parts, refer to paragraphs 2.5 and 2.6:

- Correct the number of consumed gas generator cycles.
- Correct the associated remaining cycle's value given in the engine book.

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§2.LEVEL 1, 2

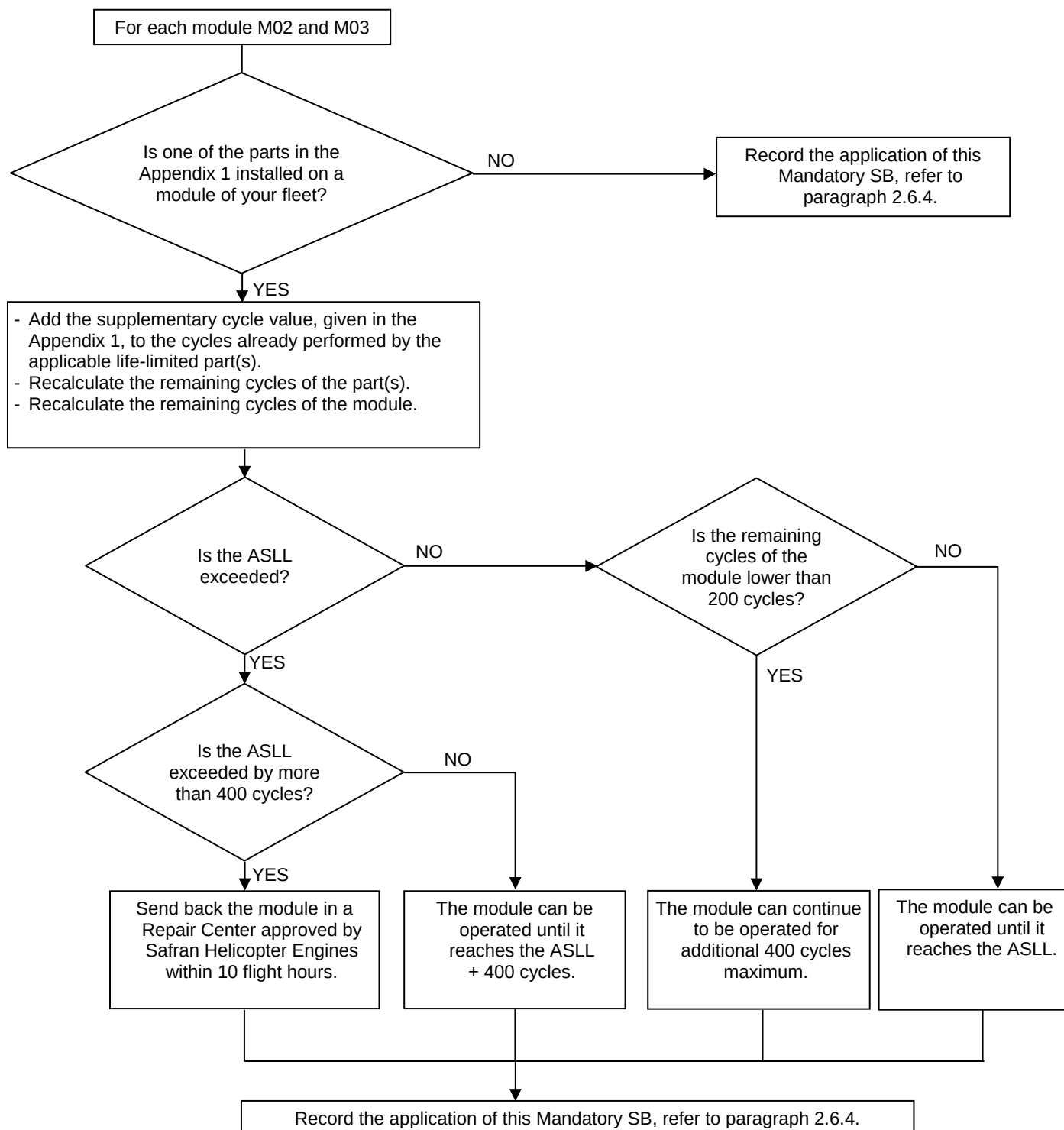
§3.LEVEL 3

§4.LEVEL 4

§5.CERTIFICATES

2.5. Block diagram for this SB

ASLL: Authorized in-Service Life Limit declared in the Maintenance Manual of the applicable variant, task 05-10-01-200-801.



Note: This operating instruction is not applicable for the modules listed in the Appendix 2 which only concern the operator subject to the application of the DGA Airworthiness Directive ATvCN No. 2144-23/DT/ASA/PRA.

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2.6. Instructions on how to do the procedure
2.6.1. Implementation

This Mandatory SB does not necessitate removal of the engine.

2.6.2. Operating instructions

- 2.6.2.1. On each module M02 and M03, make sure that one or several parts listed in the table in the Appendix 1 are installed.

DISPONIBILITE / AVAILABLE LIFE									
MODULE - PIECES A VIE LIMITE / Life limited parts - PIECES A LIMITE D'UTILISATION / Usage limited parts									
Suivant manuel d'entretien : According Maintenance manual :				X298E04602		Lettre Service : Service Letter :		/	
POTENTIEL CALENDRAIRE TIME FOR THE CALENDAR LIMIT			DATE 1ère MISE EN SERVICE DATE FOR FIRST ENTRY INTO SERVICE			DATE LIMITE D'UTILISATION LIMITED DATE FOR USAGE			
15 ans / years									
FONCTIONNEMENT A LA LIVRAISON / LIFE USED AT TIME OF DELIVERY									
MODULE		POTENTIEL TBO	HEURES NEUF HOURS NEW	HEURES depuis révision HOURS since overhaul	Disponibilité en heures Remaining hours	Disponibilité en cycles Remaining cycles	Disponibilité Taux d'utilisation Remaining usage rate	Disponibilité Point Endofluage Remaining creep damage	
		3 000	9 672	1 143	1 857	4809	/	/	
PIECES PARTS	R	DESIGNATION IDENTITY	REFERENCE P/N	N° Série S/N	Heures de fct. Total Total run hours	Disponibilité en heures Remaining hours	Cycles eff. Total Total cycles carried out	Disponibilité en cycles Remaining cycles	Endofluage total Total creep damage
Pièces à vie limitée Life limited parts	1	ROUE AXIALE 1ER ETAGE 1ST STAGE AXIAL WHEEL	0290130030	0125B	/	/	5686	7314	/
	2	ROUE AXIALE 3RD STAGE 3RD STAGE AXIAL WHEEL	0290130030	0125B	/	/	8191	4809	/
	3	ROUE AXIALE 2ND STAGE 2ND STAGE AXIAL WHEEL	0290130030	0125B	/	/	3119	9881	/
	4	/	/	/	/	/	/	/	/
	5	/	/	/	/	/	/	/	/
on	6	ROULEMENT BEARING	9606050807	4497	0	7500	/	/	/
	7	ROULEMENT BEARING	9606050807	4498	0	7500	/	/	/
	8	/	/	/	/	/	/	/	/
	9	/	/	/	/	/	/	/	/

Identification of the life-limited parts of the module

- 2.6.2.2. If one or several parts are installed in the module, add the number of supplementary cycles, stated in the table in the Appendix 1, to the number of cycles already performed by the part(s), given in the log card of the applicable module.

Corrected cycles = Performed cycles + Supplementary cycles

- 2.6.2.3. Then recalculate the remaining cycles of the part by deducting the new total number of performed cycles from its authorized in-service life limit declared in the Maintenance Manual of the applicable variant, task 05-10-01-200-801.

Part remaining cycles = Authorized in-service life limit - Corrected cycles

- 2.6.2.4. Find the remaining cycles of the module by taking the minimum value of the remaining cycles of the module parts.

Module remaining cycles = minimum (Remaining cycles for LLP 1, Remaining cycles for LLP 2...)

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2.6.2.5. If the authorized in-service life limit is exceeded by less than 400 cycles, the engine can be kept in service until it reaches the authorized in-service life limit +400 cycles.

If after calculation, the remaining cycles do not allow to continue to operate the engine for at least 10 flight hours, the module can be treated in accordance with paragraph 2.6.2.6.

2.6.2.6. If the authorized in-service life limit is exceeded by 400 cycles or more, the module must be removed within 10 flight hours and sent back to a Repair Center approved by Safran Helicopter Engines.

2.6.2.7. If the new remaining cycles are lower than 200 cycles, the module can continue to operate for a maximum of 400 cycles, before being sent back to a Repair Center approved by Safran Helicopter Engines.

2.6.2.8. If the new remaining cycles are higher than 200 cycles, the module can be kept in service until it reaches the authorized in-service life limit.

Note: This operating instruction is not applicable for the modules listed in the Appendix 2 which only concern the operator subject to the application of the DGA Airworthiness Directive ATvCN No. 2144-23/DT/ASA/PRA.

2.6.3. Reconditioning and checks

Not applicable.

2.6.4. Identification

Refer to the Guides U441 and U015 for instructions on how to record the engine log book and the log cards.

2.6.4.1. Record the application of this Mandatory SB:

- On the log cards of the modules M02 and M03 in the table below.

ETAT DES MODIFICATIONS ET SERVICE BULLETINS APPLIQUES PAR L'UTILISATEUR MODIFICATIONS AND BULLETIN SERVICES APPLIED BY OPERATOR							
MODIF	SERVICE BULLETIN	DATE	Signature - Tampon / Stamp	MODIF	SERVICE BULLETIN	DATE	Signature - Tampon / Stamp
/	SB298720837	xx/xx/2023					

- In sections A and E of the engine log book, if the module is installed.

Reminder: This Mandatory Service Bulletin must be reported even if no module part is mentioned in the Appendix 1.

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2.6.4.2. Update the remaining status.

- In sections A and E of the engine log book, if the module is installed.
- On the log cards of the modules M02 and M03 in the table below.

ENTRETIEN / MAINTENANCE

TRAVAUX EFFECTUES WORKS CARRIED OUT	EFFECTUES CARRIED OUT			OPERATEUR OPERATOR	Date	Signature - Tampon / Stamp
	HEURES HOURS	CYCLES				
		GEN GG	TL FT			
Application of MSB A298 72 0837 Correction of CSN1 for Gas Generator LLP (M02 and M03)			/			

PIECES A VIE LIMITE OU A LIMITE D'UTILISATION REMPLACEES PAR L'UTILISATEUR
LIFE LIMITED OR USE LIMITED PARTS REPLACED BY OPERATOR

R	MOTIF REASON	DESIGNATION IDENTITY	REFERENCE PART NUMBER	N° Série S/N	TOTAL HEURES HOURS	DISPO. REMAINING	TOTAL CYCLES	DISPO. REMAINING	Date	Signature - Tampon / Stamp
	/	1 st stage Axial Wheel			/	/	new total	new remaining	xx/xx/2023	
	/	2 nd stage Axial Wheel			/	/				
	/	3 rd stage Axial Wheel			/	/				
OU / OR										
	/	Injection Wheel			/	/				
	/	Centrifugal Impeller			/	/				
	/	1 st stage HP turbine disk			/	/				
	/	2 nd stage HP turbine disk			/	/				

Note: Do not correct the number of gas generator cycles done by the module or the engine.

2.6.4.3. Send back the fully-completed compliance certificate, links to the digital document

EngineLife Customer Portal: [Certificate 5.1 SB A298 72 0837 EN B](#) or


2.7. Weight and balance

Not applicable.

End of Section §2

“Procedure done at the operator’s site or at a Maintenance Center approved for Level 1, 2”

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3. PROCEDURE DONE AT A MAINTENANCE CENTER APPROVED FOR LEVEL 3 OR AT THE OPERATOR'S SITE BY A MAINTENANCE CENTER APPROVED FOR LEVEL 3

Refer to the paragraphs of section [§2](#) related to the Maintenance Centers approved for Level 1, 2.

End of section §3

“Procedure done AT a maintenance center approved for level 3 OR AT THE OPERATOR'S SITE BY a Maintenance Center approved for Level 3”

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4. PROCEDURE DONE AT A REPAIR CENTER APPROVED FOR LEVEL 4**4.1. Manpower**

- Personnel of approved Repair Center.
- Time calculated by the Repair Center for this level of intervention.

4.2. Tools / Parts

Refer to the MAKILA 1 Overhaul Manual.

4.3. Parts information**4.3.1. Basic information**

Not applicable.

4.3.2. List of parts

Not applicable.

4.3.3. Supply conditions

Not applicable.

4.4. Procedures

Update the cyclic consumption values, refer to paragraph 4.6.

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§1.GENERAL

§2.LEVEL 1, 2

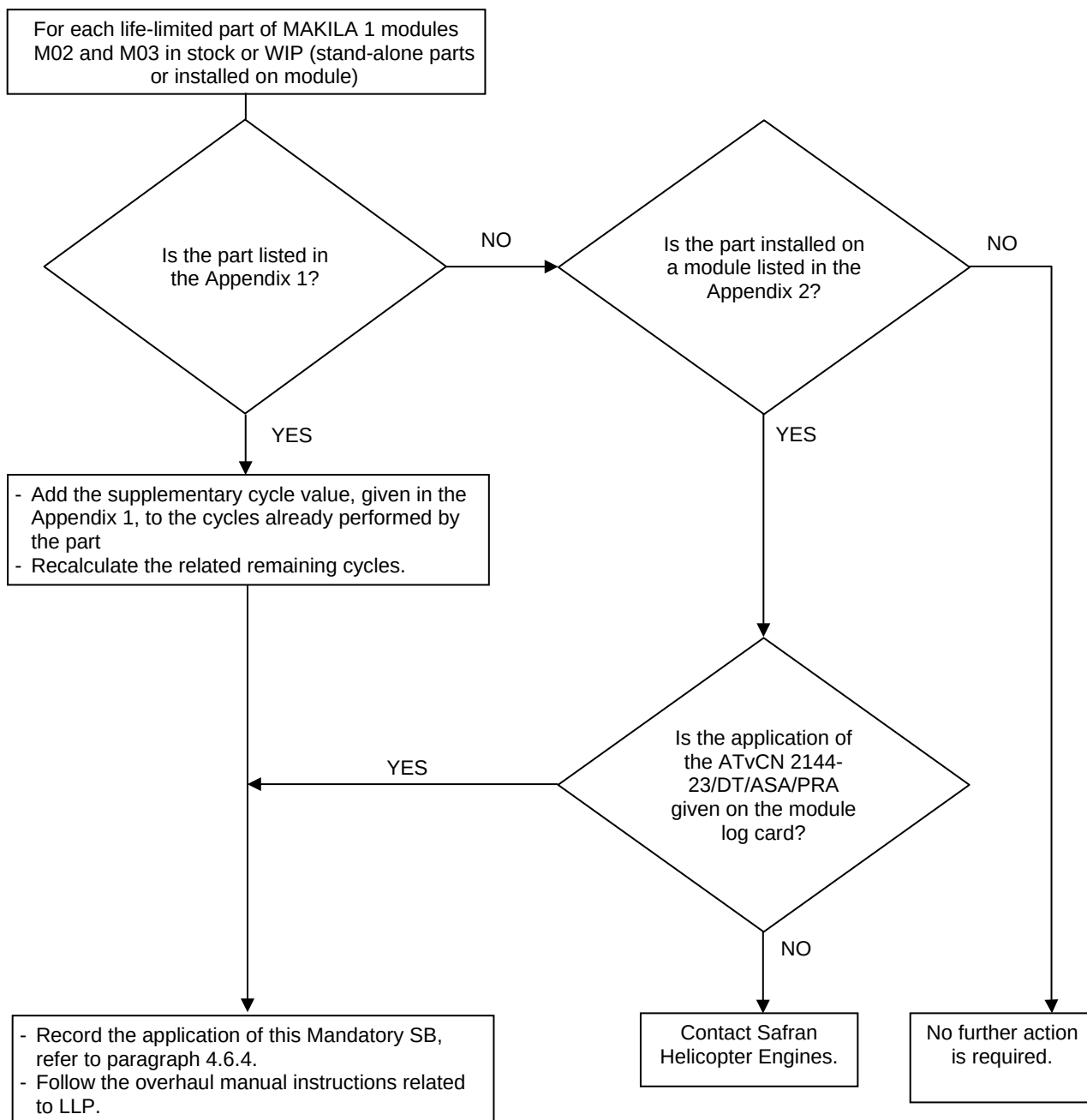
§3.LEVEL 3

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4.5. Block diagram for this SB

ASLL.: Authorized in-Service Life Limit declared in the Maintenance Manual of the applicable variant, task 05-10-01-200-801.



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4.6. Instructions on how to do the procedure
4.6.1. Implementation

Not applicable.

4.6.2. Operating instructions

For each life limited part of MAKILA 1 module M02 and M03 in stock or WIP:

4.6.2.1. Check if the part is listed in the Appendix 1 of this Mandatory Service Bulletin.

4.6.2.1.1. If the part is listed in Appendix 1, add the number of cycles given in the Appendix 1 to the cycles already performed. Record the new cycle value of the part and follow the instructions of the Engine Overhaul Manual regarding the LLP.

4.6.2.1.2. If the part is not listed in Appendix 1, check if the part is installed on a module listed in Appendix 2.

4.6.2.2. For the parts listed on modules in the Appendix 2.

Check the application of the ATvCN 2144-23/DT/ASA/PRA in the log card:

- If the ATvCN is applied, record the application of this Mandatory Service Bulletin, refer to paragraph 4.6.4.
- If the ATvCN is not applied, contact your Safran Helicopter Engines representative.

4.6.2.3. For the part and module not listed in either Appendix 1 or Appendix 2, no additional action is necessary.

4.6.3. Reconditioning and checks

Not applicable.

4.6.4. Identification

Refer to the Guides U441 and U015 for instructions on how to record the engine log book and the log cards.

4.6.4.1. For modules M02 and M03, record the application of this Mandatory Service Bulletin on the log cards.

4.6.4.2. For isolated parts, record the application of this Mandatory Service Bulletin and the new values of cumulated cycles and remaining cycles in your appropriate systems or documents.

4.6.4.3. Send back the fully-completed compliance certificate, links to the digital document

EngineLife Customer Portal: [Certificate 5.1 SB A298 72 0837 EN B](#) or


4.7. Weight and balance

Not applicable.

End of Section §4
“Procedure done at a Repair Center approved for Level 4”

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§2.LEVEL 1, 2

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5.1- Compliance certificate of Mandatory SB No. A298 72 0837 - LEVEL 1, 2, 3, 4
Important:

Fill in the compliance certificate after application of the instructions given in this SB.

Mail or email it to:

SAFRAN HELICOPTER ENGINES
 Equipe Administration Base installée / Fleet Data Administrator Team, BP 25
 40220 TARNOS - France

Email: data-fleet.fr.she@safrangroup.com

Equipment information					
Customer			Aircraft S/N		
	S/N	P/N	TSN*	CSN HP*	CSN PT*
Engine					
Checked module M02					
Axial wheel, 1 st stage					
Axial wheel, 2 nd stage					
Axial wheel, 3 rd stage					
Checked module M03					
Centrifugal impeller					
Injection wheel					
HP turbine disk, 1 st stage					
HP turbine disk, 2 nd stage					

* TSN = Time Since New

CSN = Cycles Since New - After correction for LLPs whose life limit was corrected

I certify that the above-mentioned modules have been checked according to this Mandatory SB.

Date [DD/MMMM (letter)/YYYY]	
Comments	

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APPENDIX 1

MODULE M02

AXIAL WHEEL 1

LLP S/N	Additional cycles	LLP S/N	Additional cycles
55FRF	125.82	808FT	Contact SHE*
83FRF	Contact SHE*	1031FB	2357.64
153FRF	407.7	1036FB	1994.22
162FRF	2697.84	1110FB	476.82
191FRF	1204.74	1121FB	1393.2
203FRF	676.62	1166FB	589.14
226OTT	1230.66	1169FB	1612.44
229FRF	42.12	1269FB	1023.84
234FRF	1115.64	1453FB	886.68
235FRF	562.14	1464FB	1185.84
346FB	411.48	1793FB	1834.38
360FRF	101.52	1943FB	1749.06
371FB	1763.64	1958FB	729
395FRF	34.02	2055FB	743.04
401OTT	135	2087FB	922.941
437OTT	236.52	2376FB	1691.28
445OTT	172.26	2558FB	578.88
456OTT	68.58		
473OTT	80.46		
482FB	718.74		
484FB	288.36		
501FB	1175.04		
514FB	2636.28		
524FB	70.2		
548FB	1413.18		
555FB	1481.22		
596FB	622.08		
605FB	256.5		
643FB	1299.78		
645FB	846.72		
803FT	1942.38		

AXIAL WHEEL 2

LLP S/N	Additional cycles	LLP S/N	Additional cycles
178OTT	Contact SHE*	2027FB	297.54
227FB	Contact SHE*	2090FB	80.46
256OTT	1486.62	2092FB	578.88
263FB	2732.94	2117FB	49.68
310FB	1711.8	2154FB	562.14
326FB	1831.14	2156FB	221.4
417FB	1130.22	2160FB	160.92
487FB	1108.62	2176FB	219.78
493FB	1595.16		
515FB	1506.6		
528FB	1703.7		
547FT	1559.52		
579FT	1750.14		
599FT	1360.26		
604FT	1321.38		
612FB	1301.94		
622FB	1923.48		
632FT	2636.28		
682FB	1810.62		
810FT	589.14		
911FB	989.28		
1027FT	1839.78		
1077FT	1270.08		
1091FT	239.76		
1228FB	412.56		
1540FB	239.76		
1561FB	743.04		
1565FB	1380.24		
1759FB	286.74		
1775FB	799.2		
1874FB	552.42		
1924FB	254.34		
1974FB	79.92		

*For the parts with no "additional cycle" information, please contact your Safran Helicopter Engines representative to get the cycle information to take into account.

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APPENDIX 1
MODULE M02
AXIAL WHEEL 3

LLP S/N	Additional cycles	LLP S/N	Additional cycles
1500TT	434.7	962FT	1522.26
154FT	3669.84	1339FB	2139.48
1580TT	286.74	1399FB	412.56
1590TT	798.12	1518FB	1536.3
1700TT	756.54	1590FB	2189.16
1960TT	135	1671FB	913.14
233FT	1596.78	1686FB	767.88
262FT	3302.64	1815FB	1203.66
3750TT	989.28	1897FB	820.26
4280TT	250.56	1912FB	680.94
4350TT	219.78	2142FB	91.8
452FB	2636.28	2191FB	320.22
496FB	1457.46	2261FB	79.92
521FB	1504.44	2303FB	578.88
525FB	1346.76	2304FB	80.46
534FB	1703.7	2335FB	221.4
535FB	1413.18	2342FB	172.26
556FT	1810.62	2441FB	49.68
568FT	1700.46	2452FB	160.92
581FB	1711.8	2460FB	562.14
582FB	1003.86		
583FT	1515.78		
597FB	1507.68		
612FT	1360.26		
628FT	1595.16		
629FT	1712.88		
648FB	976.86		
659FT	1831.14		
679FT	1591.92		
791FT	1792.8		
907FB	4159.62		
936FB	589.14		
939FT	1515.78		
SER959FT	1202.04		

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APPENDIX 1

MODULE M03

HP TURBINE DISK 1

LLP S/N	Additional cycles
ADA8682YC	2534.22
<u>ADA8809AD</u>	3198.42
<u>ADA9756YC</u>	1992.06
ADA9858YC	1942.38
ADA9867YC	2977.02
<u>ADB1712AD</u>	1887.84
ADB1732AD	2123.82
<u>ADB3016YC</u>	1624.86
ADB3020YC	1806.84
<u>ADB3727YC</u>	1520.64
<u>ADB4764AD</u>	1831.14
ADB5379AD	2029.86
ADB5875YC	2817.936
ADB5877YC	2544.561
<u>ADB5878YC</u>	1954.8
ADB5994YC	2291.76
ADB6114AD	1802.52
<u>ADB6239YC</u>	1711.8
ADB6248YC	999.54
ADB6647YC	1525.23
<u>ADC1694YC</u>	2636.82
ADC9306YC	1392.66
<u>ADC9468YC</u>	875.88
ADC9471YC	834.3
<u>ADC9479YC</u>	710.64
ADD3176YC	1185.84
ADD413AD	817.02
ADE2474YC	1391.04
<u>ADE2484YC</u>	2687.04
<u>ADE2800YC</u>	1422.36
ADE3284YC	476.82
ADH7969AD	1328.94
ADH9180AD	1043.82
ADHA269AD	1197.18
ADHB335AD	37.26
ADHE709AD	945

HP TURBINE DISK 2

LLP S/N	Additional cycles
250MW	433.08
<u>ADA7008YC</u>	3198.42
ADA8889AD	3288.06
ADA9784YC	2534.22
<u>ADB0616YC</u>	1831.14
<u>ADB0931YC</u>	1887.84
<u>ADB0933YC</u>	2104.38
ADB1333YC	2123.82
ADB1384AD	2977.02
<u>ADB2286AD</u>	1992.06
<u>ADB2290AD</u>	1697.76
ADB4863AD	2137.86
<u>ADB4865AD</u>	1624.86
ADB4867AD	2029.86
ADB5796YC	2291.76
ADB5819YC	2817.936
ADB6009YC	2544.561
<u>ADB6012YC</u>	1703.7
ADB6473AD	999.54
<u>ADB6499YC</u>	1711.8
ADB6796YC	1525.23
<u>ADB7066YC</u>	2636.82
ADD0741YC	834.3
ADD0757AD	1392.66
ADE0444YC	1185.84
<u>ADE1584YC</u>	2687.04
ADE4291YC	1328.94
ADE4612YC	1043.82
ADH4428AD	1391.04
ADH5122AD	476.82
ADHA422AD	1197.18
ADHC267AD	37.26
F341AD	945
H041AD	244.08

In version A of this Service Bulletin, one character of some disc S/Ns was missing. The corrected S/Ns are underlined and the added character is written in **bold** and in **red**.

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APPENDIX 1
MODULE M03
INJECTION WHEEL

LLP S/N	Additional cycles	LLP S/N	Additional cycles
12GXG	1525.5	733AD	1595.16
16XG	1831.14	828AD	1887.84
76FRF	945	839AD	1697.76
107XG	2029.86	841AD	1559.52
113FRF	244.08	907AD	1756.62
122XG	1624.86	985AD	1618.92
R0198CTF	104.49	1124AD	1362.42
211XG	1711.8	1135AD	1392.66
215XG	1347.3	1153AD	875.88
230XG	999.54	1206AD	710.64
231XG	1394.82	1326AD	2042.28
S0246CTF	578.88	1658AD	2149.2
250FRF	203.04	2126AD	1197.18
252XG	1810.62	2356 AD	1328.94
261AD	2104.38	2928AD	286.74
263XG	1923.48	3209AD	434.16
273XG	1301.94	3478AD	433.08
293XG	2075.76	R4744CTF	562.14
627XG	834.3		
720AD	1515.78		

CENTRIFUGAL IMPELLER

LLP S/N	Additional cycles	LLP S/N	Additional cycles
45XG	1392.66	408XG	1197.18
50XG	834.3	436FT	637.74
95FB	148.5	486XG	37.26
114UP	2271.24	557XG	369.9
153FRF	244.62	562XG	203.04
175FT	5375.16	582FT	1340.82
176FB	104.49	694FT	999.54
184UP	2636.82	733FT	344.52
256FB	562.14	749FT	1711.8
323FRF	83.16	822FT	1430.46
326XG	94.5	1270FT	476.82
376FT	2977.02	1328FT	1797.66

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APPENDIX 2

The modules listed in this appendix 2 concern only the operator subject to the application of the DGA Airworthiness Instruction ATvCN no. 2144-23/DT/ASA/PRA.

MAKILA 1 A1
MODULES M02 S/N

5	824	969
55	840	1093
221	841	1099
244	844	1112
264	~~844~~	1140
269	847	1147
278	849	1224
281	850	1225
287	855	~~1226~~
302	865	1233
339	869	1234
352	873	1235
390	875	1246
399	878	1259
668	881	1283
669	882	1397
701	883	1432
702	890	1448
727	892	1494
728	916	1564
749	917	1754
759	922	1789
760	925	1792
768	927	1832
770	934	1889
777	938	2010
785	947	3031
788	956	242
813	959	369
814	960	

MODULES M03 S/N

221	2321	2551
302	2324	2556
1072	2331	2560
1112	2338	2565
1200	2343	2568
1250	2345	2578
2002	2346	2581
2141	2348	2602
2158	2351	2617
2162	2354	2619
2170	2355	2693
2175	2356	2694
2176	2360	~~2695~~
2201	2363	2699
2202	2365	2700
2223	2375	2701
2231	2391	2703
2233	2399	2706
2242	2400	2757
2244	2402	2781
2251	2412	2830
2252	2413	2930
2262	2414	2997
2271	2419	3012
2289	2421	3013
2290	2431	3027
2300	2433	3058
2302	2441	3069
2312	2443	3145
2318	2459	2070

Since version A of this Service Bulletin: modification to this list as follows: removal of a module S/N that was given two times, removal of two specified modules not related to the ATvCN No. 2144-23/DT/ASA/PRA and addition of two other module S/Ns.

For these modules, the operator must record the application of this Service Bulletin in the engine log book after application of the ATvCN No. 2144-23/DT/ASA/PRA.