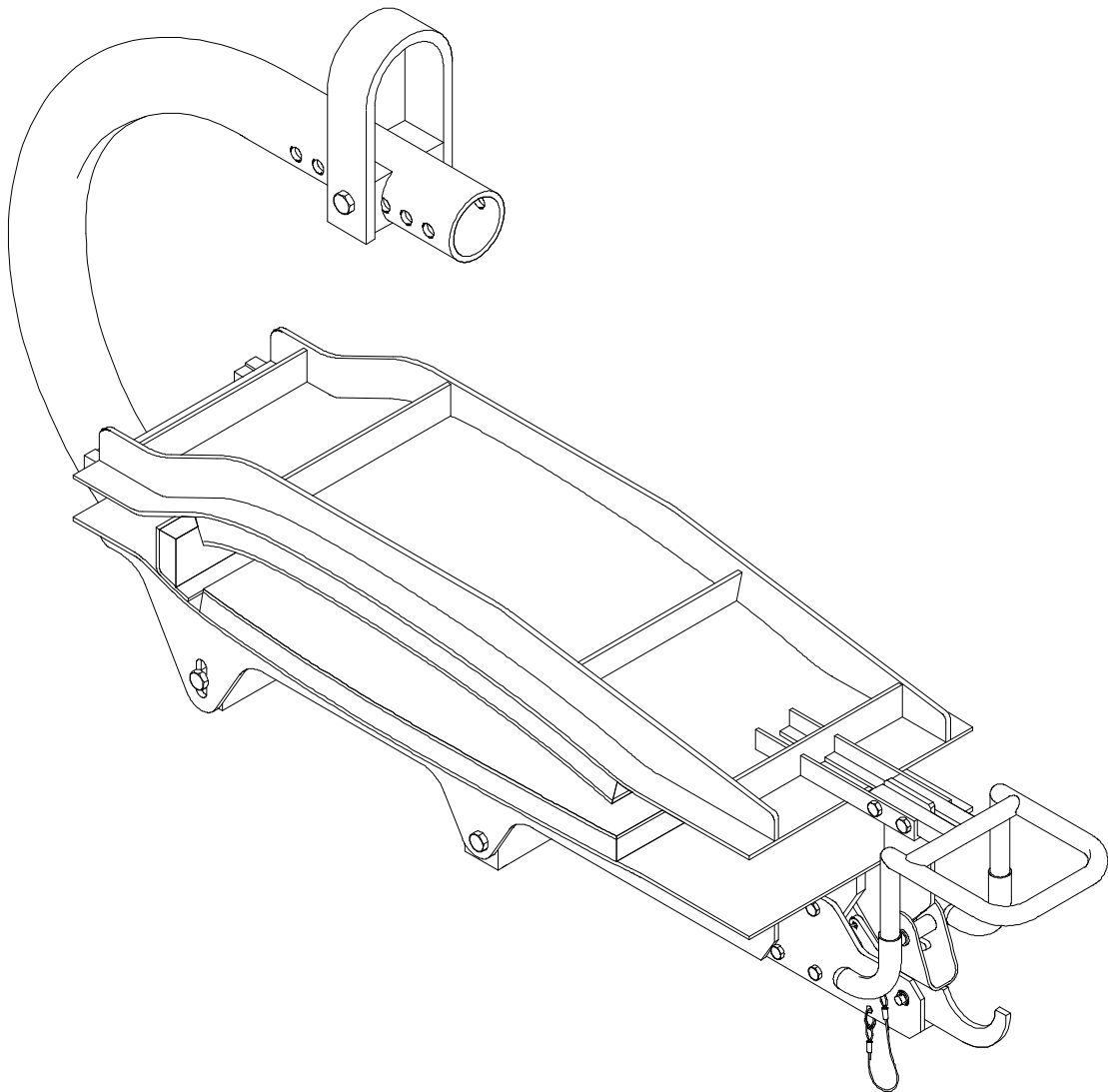


GSE & TOOL MANUAL

TITLE

**TOOL, M/R BLADE LIFTING
P/N 3G6200G07231**



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REVISION HISTORY

REV	CHANGE DESCRIPTION	DATE
A	First issue	20/03/2023

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1. SCOPE

1.1. APPLICABILITY

The contents of this document are meant to provide information on the P/N 3G6200G07231 TOOL, M/R BLADE LIFTING.

1.2. OBJECT

The object of this document is to describe the AGE and its components, its main features and it will also provide all needed maintenance requirements to keep in service the P/N 3G6200G07231 TOOL, M/R BLADE LIFTING.

1.3. WARNING AND SAFETY INSTRUCTIONS

A number of symbols are used throughout this document to indicate information to which the user should pay attention to. These are indicated below along with the specific meaning.




 Warning	...Indicates a danger that might arise from a product and might result in severe injuries or even death, if no precautions are taken.
 Caution	... Indicates a potentially dangerous situation, which might result injury or damage to the equipment.
 Notice	...Indicates a note providing information to help the reader during the procedure.

Table 1 – Warning Instruction

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2. DOCUMENTS

2.1. APPLICABLE DOCUMENTS

The following table lists the applicable documents

REF	REFERENCE OF DOCUMENT	TITLE
1	2006/42/EC	Directive Of The European Parliament and Of The Council

Table 2 – Applicable Documents

2.2. ACRONYMS USED

The main acronyms used in this document are listed below:

LHD	Leonardo Helicopter Division
HC	Helicopter
P/N	Part Number
S/N	Serial Number
N.A.	Not Applicable
M/R	Main Rotor

3. DESCRIPTION

The function of this tool is to cradle and lift the main-rotor blades during the removal/installation with a hoist.

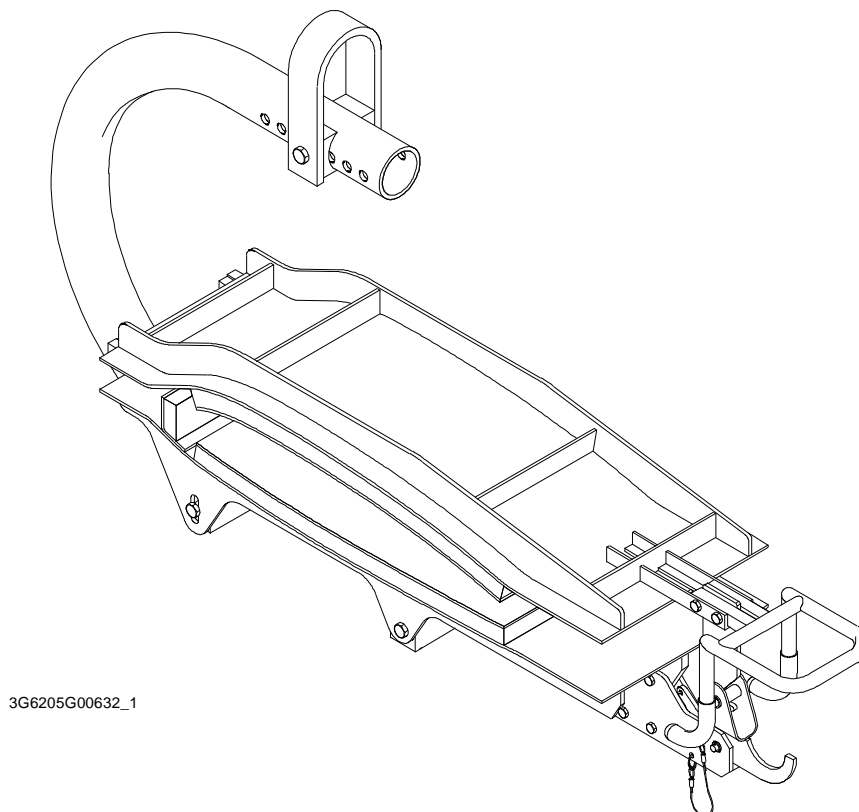


Figure 1 – Tool, M/R Blade Lifting

4. TOP ASSEMBLY DRAWINGS

Refer to P/N 3G6200G07231 TOOL, M/R BLADE LIFTING.

5. IDENTIFICATION

The tool identification P/N is marked on the LHD identification tag.

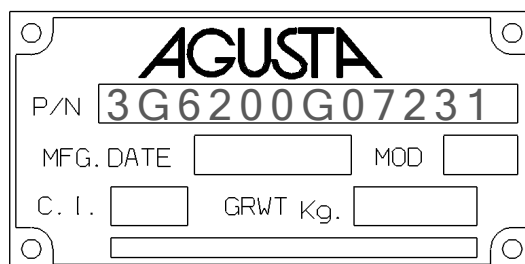


Figure 2 – LHD Identification tag with P/N



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6. OVERALL DIMENSIONS

- Length: 960 mm
- Width: 210 mm
- Height: 560 mm

7. WEIGHT

- Total Weight: 17

8. MAIN PARTS

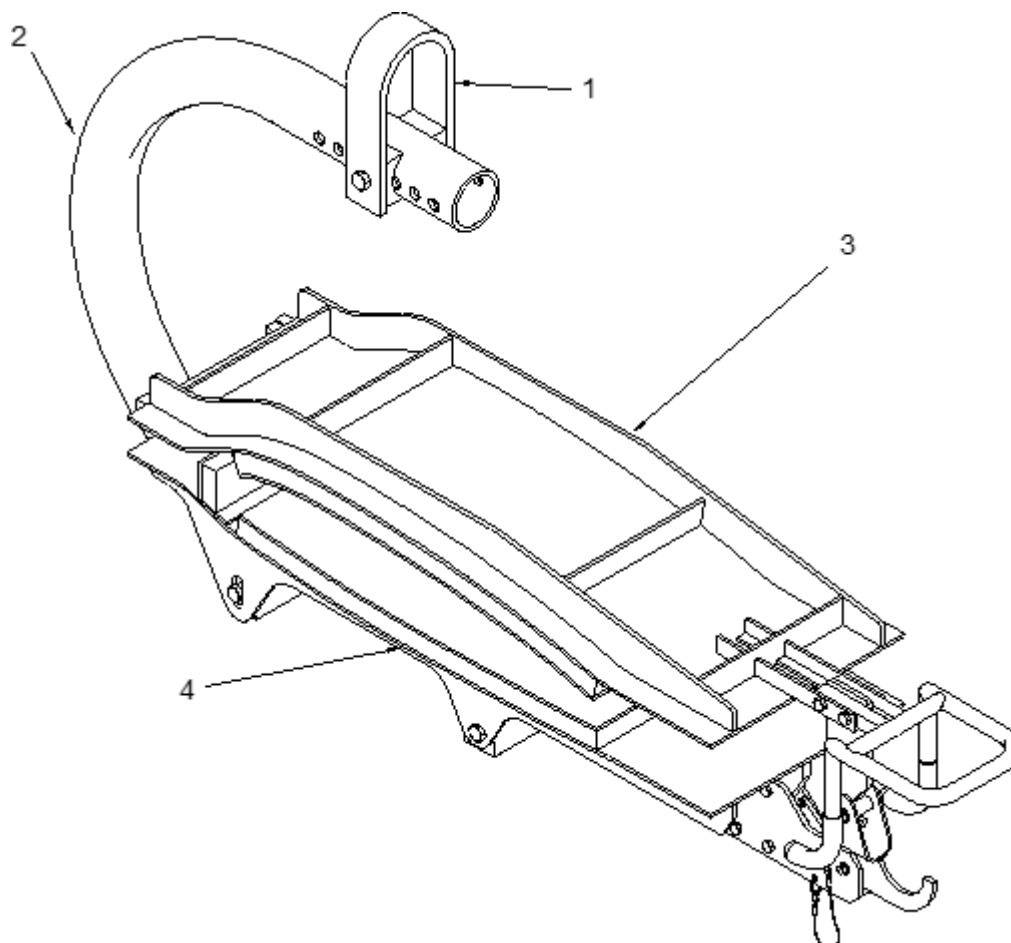


Figure 3 – Main Parts

The main parts of the TOOL, M/R BLADE LIFTING are:

1. Lifting Ring
2. Support
3. Upper Clamp
4. Lower Clamp

9. MAIN FEATURES DESCRIPTION

The tool is composed of a system that allows to clamp, fix and sling the single blade.

10. WARNING AND SAFETY NOTES

10.1. WARNING NOTE







 Warning	<p>Use this equipment only for the purpose that it is designed for. Any other use can result in injury or serious material damage to the components.</p>
 Caution	
 Notice	<p>The Manual can never integrally replace the adequate competence of the user.</p>
 Warning	<p>Before and after each use of the equipment is necessary to perform the checks required. Do not operate with a tool damaged or partially completed, or partially assembled.</p>
 Caution	
 Notice	<p>This Manual provides guidelines and instructions of the equipment that are in addition to - but are not intended to replace or modify but only to integrate - any general or specific rule, regulation, decree or law that is in force in the place where the equipment is in use.</p>

Table 3 – Warning Note

10.2. SAFETY NOTES

Remember to wear protective overalls, safety shoes, protective gloves and glasses during all operational and maintenance phases.



Figure 4 – Safety Notes

11. STORAGE

The Tool shall be properly stored to provide protection from external weather conditions, damage and dirty particles.

Ensure that the tool parts are clean before storage.

11.1. LUBRICATION BEFORE STORAGE

N.A.

11.2. STORAGE CONFIGURATION

The tool has no particular storage configuration.

12. MAINTENANCE

NOTE: Correct regular maintenance allows preventing most faults and safeguards of tool performance in time, thereby making it last longer.

Every year carry out regular maintenance on a regular basis as detailed in this manual.

NOTE: Inspection intervals for tool parts placed inside in ready storage is 12 months.

12.1. CLEANING

Before inspection and after each use, carry out the cleaning of the tool components.

12.1.1. SPECIAL TOOLS, FIXTURE AND EQUIPMENT

No special tools, fixture and equipment are required for cleaning.

12.1.2. PART REQUIREMENTS

The parts to clean should be free from the moisture, emulsified water, soaps and metal shavings that can develop of corrosive acids.

They must also be free from wide grease and / or slosh deposits.

12.1.3. MANUAL CLEANING

- A. Clean thoroughly all metal surfaces with a clean lint-free cloth (Local supply) moistened with Cleaning Solvent (MIL-PRF-680C, Type II) to do general spot cleaning of large groups areas. For nylon or Teflon surfaces, the use of a biodegradable, water dilutable cleaning compound (MIL-PRF-87937 D, Type II) is required.
- B. Repeat the cleaning process again by means another clean lint-free cloth (Local supply).
- C. Drying.
 - Verify that the solvent should not be trapped in the cavity. Normally, the solvent evaporates at room temperature in a satisfactory manner.

12.2. CHECKS

Before and after each use or at least every year, carry out the check of kit component.

Before each use ensure that the manual is available to the operator, in the event of loss, request a copy to Leonardo Helicopters Division.

The Tool kit shall be submitted to following checks to guarantee the functionality.

All required checks shall be registered on CHECK RECORDS Table. Ref. *TLC_Table 1*

After each use of tool ensure to have registered the number of uses on HISTORICAL USES RECORD Table. Ref. *TLC_Table 2*

The Tool Log Card template contained in the Annex A of this manual can be replaced with any other log card template in use in the plant where the equipment is in use.

12.2.1. SPECIAL TOOLS, FIXTURE AND EQUIPMENT

No special tools, fixture and equipment are required for the checks.

12.2.2. VISUAL EXAMINATION

NOTE: Replace the parts that do not obey the inspection requirements.

Restore the marking of the parts that results damaged or not readable.

All required visual checks are listed on Table 4

PERIODICITY	CHECK TYPE	COMPONENTS	
BEFORE AND AFTER EVERY USE	VISUAL EXAMINATION	Evidence of impact;	All
	Crushing or stripping	All	
	Cracks	All	
	Dents	All	
	Wear	All	
	Distortions	All	
	Corrosion	All	
	Loose or defective attaching parts (warning flag)	All	
	Unsticking of parts	All	
	Damage to the threads	All	
	Marking	All	
	Damage to the pins and to the shell	N.A.	
	Damage to the insulation sleeves and wires	N.A.	

Table 4 – Visual Check



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12.2.3. PERIODICAL CHECKS

Not Applicable.

12.2.4. DIMENSIONAL CHECKS

Not Applicable.

12.2.5. SPECIAL CHECKS SUMMARY

Not Applicable.

12.3. REPLACEMENT

All the parts for which it is allowed the components replacement are listed in Paragraph 15.

12.3.1. REPLACEMENT PROCEDURES

The replacement of parts of the kit does not require specific procedures.

13. CALIBRATION

No Calibration is required.

14. SHELF LIFE

Not Applicable.

15. SPARE PARTS

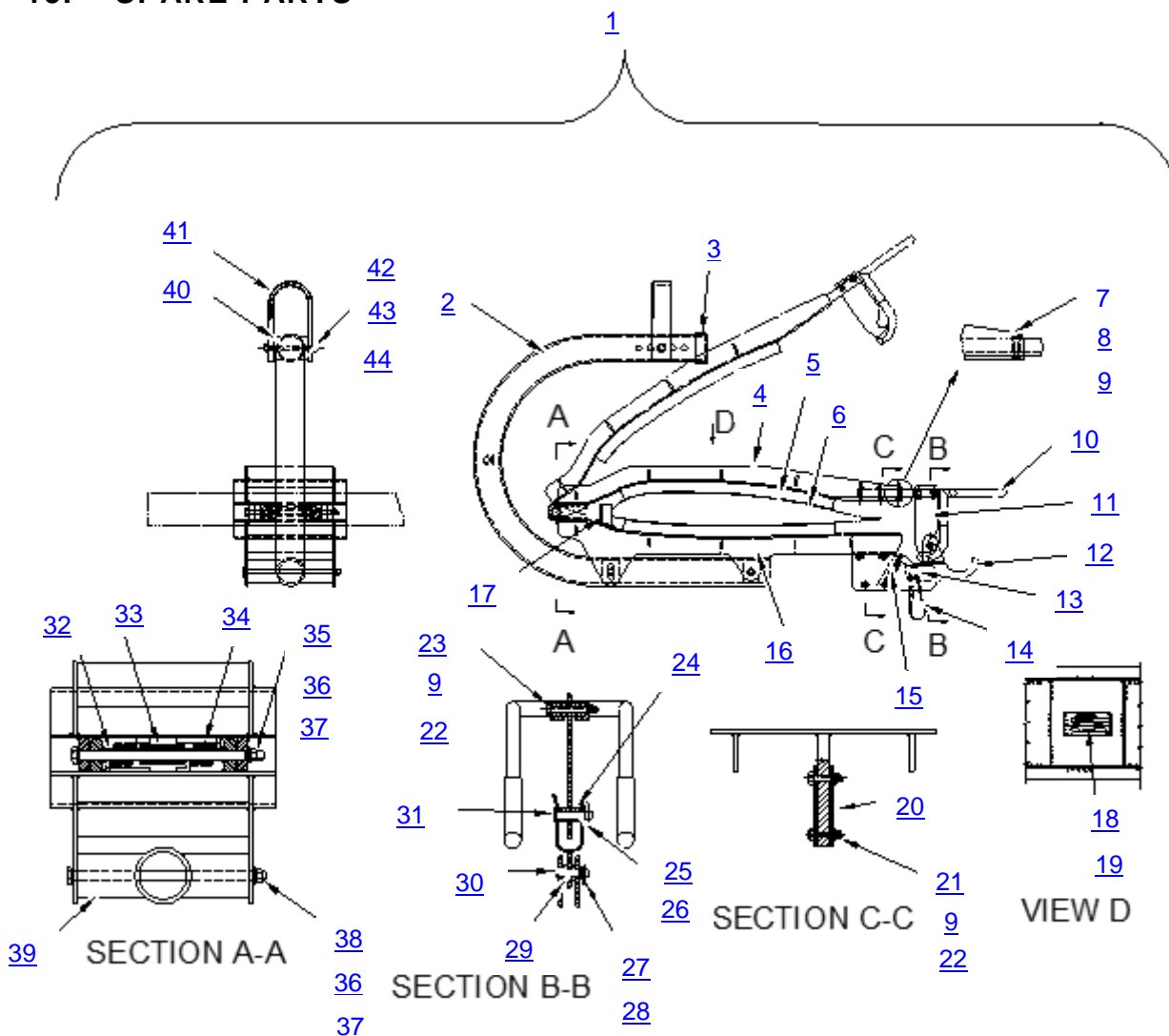


Figure 5 – Spare Parts

ITEM	P/N	DESCRIPTION	Q.TY
1	3G6200G07231	TOOL, M/R BLADE LIFTING	REF.
2	3G6205G02051	SUPPORT	1
3	1219	PLUG	1
4	3G6205G01832	UPPER CLAMP ASSY	1
5	3G6205G03251	PAD	2
6	3G6205G11151	PROTECTION	2
7	MS24693C276	SCREW, MACHINE	6
8	MS21043-3	NUT, SELF-LOCKING	6
9	NAS1149C0332R	WASHER, FLAT	25
10	3G6205G02432	HANDLE ASSY	1
11	3G6205G02551	LATCH	1

12	3G6205G02631	RELEASE ASSY	1
13	NAS1334A6C08D	PIN, QUICK RELEASE	1
14	AS44445D150D	CORD ASSEMBLY, FIBROUS	1
15	3G6205G03051	EXTENSION SPRING	1
16	3G6205G01931	LOWER CLAMP ASSY	1
17	3G6205G03351	PAD	1
18	A304A004A1	PLATE, IDENTIFICATION	1
19	MS35207-224	SCREW	4
20	3G6205G02751	PLATE	2
21	AN3-10A	BOLT MACHINE	5
22	MS21042L3	NUT, SELF-LOCKING	7
23	AN3-15A	BOLT MACHINE	2
24	3G6205G02851	ROLLER	1
25	MS24665-300	PIN, COTTER	1
26	NAS1149C0563R	WASHER, FLAT	1
27	MS24665-151	PIN, COTTER	1
28	NAS1149C0432R	WASHER, FLAT	1
29	3G6205G02951	SPACER	2
30	MS20392-3R27	PIN, STRAIGHT, HEADED	1
31	MS20392-4R33	PIN, STRAIGHT, HEADED	1
32	NAS43DD5-260N	SPACER, SLEEVE	1
33	NAS43DD8-97N	SPACER, SLEEVE	1
34	3G6205G03151	TORSION SPRING	2
35	AN5-63	BOLT, MACHINE	1
36	NAS1149C0532R	WASHER, FLAT	5
37	MS21042L5	NUT, SELF-LOCKING	3
38	AN5-65	BOLT, MACHINE	2
39	3G6205G02351	SPACER	4
40	3G6205G02251	SPACER	2
41	3G6205G02151	LIFTING RING	1
42	AN6-34A	BOLT, MACHINE	1
43	NAS1149C0632R	WASHER, FLAT	1
44	MS21042L6	NUT SELF LOCKING	1

Table 5 – Spare Parts

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16. CE MARKING

The tool P/N 3G6200G07231 TOOL, M/R BLADE LIFTING is conform to requirements of [1] and CE marking is applied.

CE label is fixed to the tool.



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ANNEX A

TOOL LOG CARD



TOOL LOG CARD

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TOOL KIT P/N: [1]	TOOL KIT DESCRIPTION: [2]	TOOL KIT S/N: [3]
TOOL P/N: [4]	TOOL S/N: [5]	REMARKS: [6]

Section 1: CHECKS RECORD

[7] N° check	[8] DATE	[9] P/N TO CHECK	[10] CHECK	[11] FREQUENCY	[12] RESULT	[13] NOTE	CERTIFICATION [14]
							STAMP & SIGNATURE [15]
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
FINAL ACCEPTANCE [16]							
STAMP & SIGNATURE [17]						DATE [18]	

TLC_Table 1



TOOL LOG CARD

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TOOL KIT P/N: [1]	TOOL KIT DESCRIPTION: [2]	TOOL KIT S/N: [3]
TOOL P/N: [4]	TOOL S/N: [5]	REMARKS: [6]

Section 2: HISTORICAL USES RECORD

[19] N°USE	[8] DATE	[6] NOTE	[13] CERTIFICATION	[19] N°USE	[8] DATE	[6] NOTE	[13] CERTIFICATION
			[14] STAMP & SIGNATURE				[14] STAMP & SIGNATURE
1				11			
2				12			
3				13			
4				14			
5				15			
6				16			
7				17			
8				18			
9				19			
10				20			

TLC_Table 2

LOG CARD FILLING INSTRUCTIONS

FIELD #	HEADER	NOTE
1	Part number of the tool Kit	
2	Tool Kit denomination	
3	Serial Number of the tool Kit	
4	Part Number of the tool (part of kit)	
5	Serial Number of the tool (if applicable)	
6	Indicate any details of the use	
7	Sequential number of check performed	
8	Date of the activity	
9	PN of tool or component (part of tool) checked/affected by issue	
10	Typology or description of checks /issue	
11	Check frequency	
12	Check result	
13	Check remarks	
14	Performance certification	
15	Stamp and signature of the personnel which performs the check	
16	Section related to the final approval	
17	Stamp and signature of the personnel which performs the final approval	
18	Date on which the final check was made	
19	Sequential number of performed used of the tool	