



GSE & TOOL USE AND MAINTENANCE MANUAL

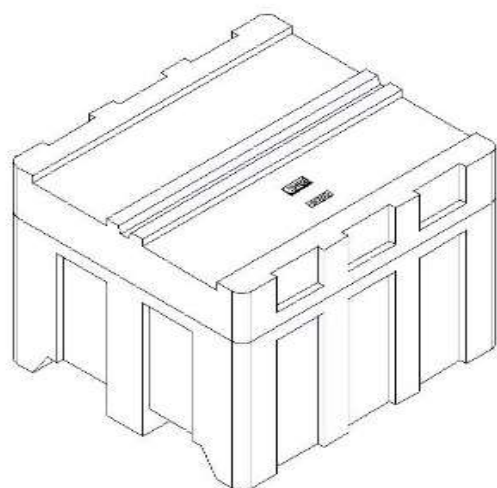
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GSE & TOOL MANUAL

TITLE

**UPPER DECK MAINTENANCE STEP FOR OPLS
P/N 3G1200G01131**



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REVISION HISTORY

REV	CHANGE DESCRIPTION	DATE
A	First issue	22/03/2022



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1. SCOPE

1.1. APPLICABILITY

The contents of this document are meant to provide information on the 3G1200G01131 UPPER DECK MAINTENANCE STEP FOR OPLS.

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 3G1200G01131 UPPER DECK MAINTENANCE STEP FOR OPLS.

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
DA01.	N/A	

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
OPLS	Obstacle Proximity Lidar Struct

3. DESCRIPTION

The function of the P/N 3G1200G01131 maintenance step tool is to protect the components on the cabin roof when persons are in the upper deck side during scheduled/unscheduled maintenance activities. The use of the P/N 3G1200G01131 tool is necessary when the vehicle is equipped with OPLS.

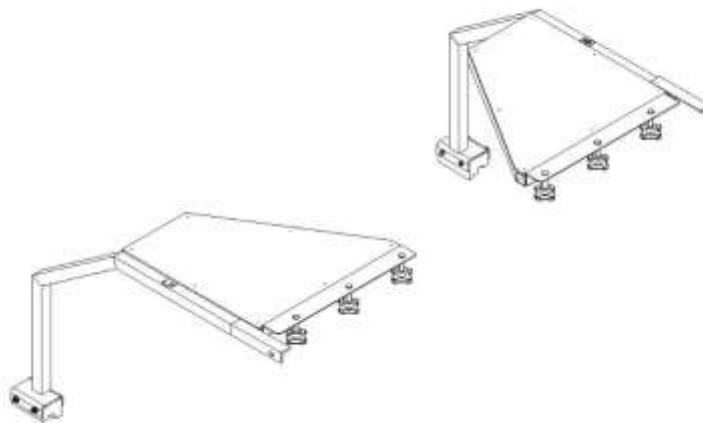


Figure 3-1 – Upper Deck Maintenance Step for OPLS

4. TOP ASSEMBLY DRAWINGS

Refer to 3G1200G01131 Upper Deck Maintenance Step for OPLS.

5. IDENTIFICATION

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


 LEONARDO	
P/N	3G1200G01131
MFG. DATE	
ISS.	
C. I.	
GRWT kg	

Figure 5-1 – LHD Identification tag with P/N

6. OVERALL DIMENSIONS

- Length: 105 mm
- Width: 95 mm
- Height: 69 mm

7. WEIGHT

- Total Weight: 60kg

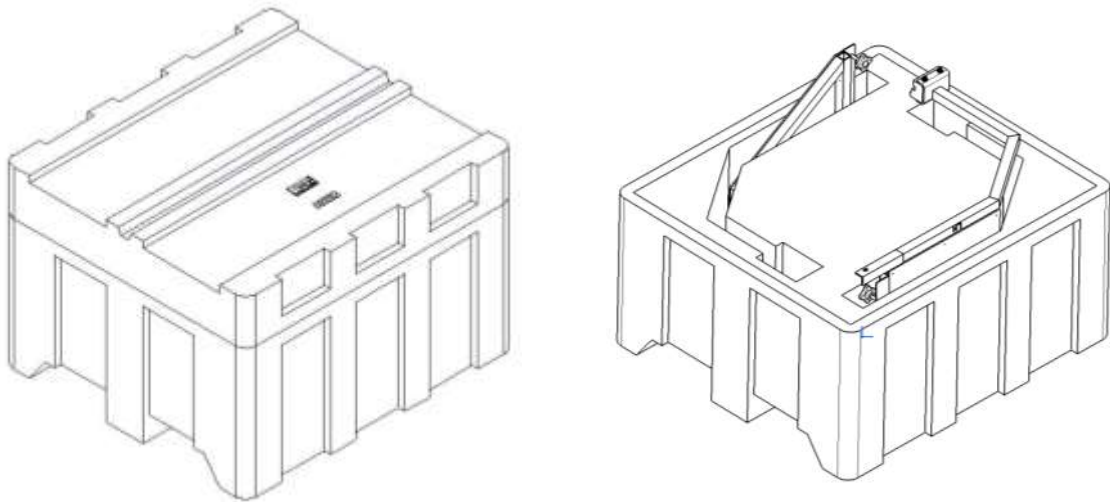


Figure 7-1 - Upper Deck Maintenance Step for OPLS KIT

8. MAIN PARTS

The tool Kit, supplied in a dedicated transportation box, is composed of the following two steps assy:

- | | | |
|----|--------------|-------------------|
| 1. | 3G1200G01231 | STEP FOR OPLS, LH |
| 2. | 3G1200G01331 | STEP FOR OPLS, RH |
| 3. | AL3834 | CASE |

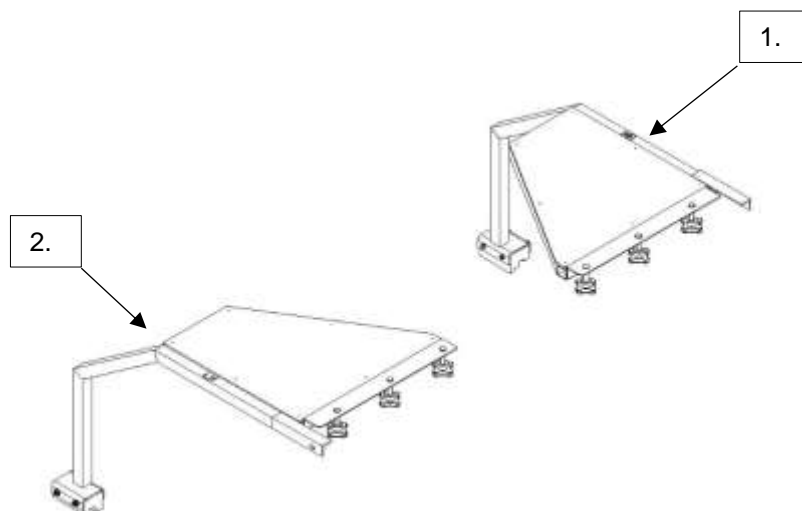


Figure 8-1 - Main Parts, Steps

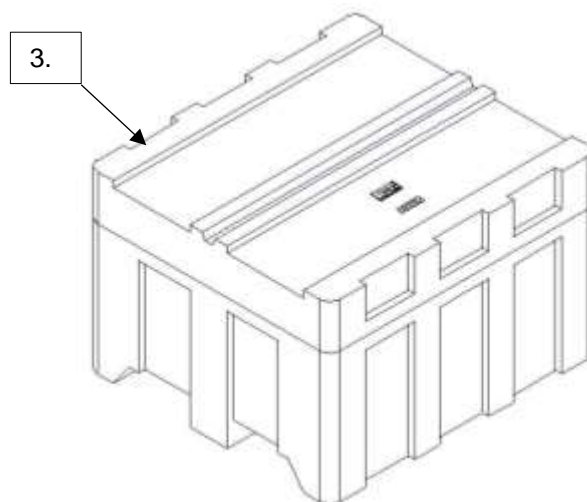


Figure 8-2 - Main Parts, Case

8.1. STEP FOR OPLS COMPONENTS

The main parts of each Step, ref. Figure 8-3, are:

- Welded Frame;
- Floor;

- c) Helicopter Interface Pad;
- d) HFHS-0616-32 PEM Stud;
- e) VCT.50FP-3/8-16 Lobe Knob.

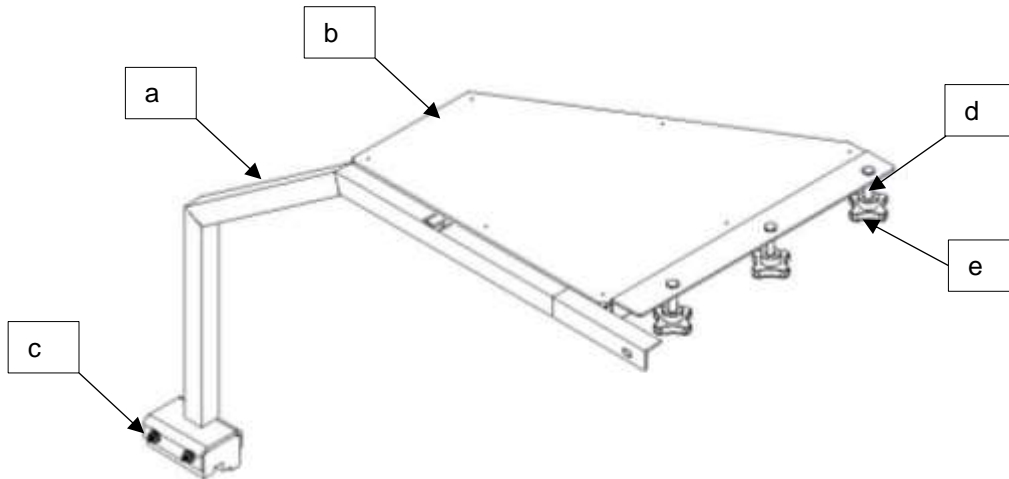


Figure 8-3 – Step for OPLS Components

9. MAIN FEATURES DESCRIPTION

The 3G1200G01131 Upper Deck Maintenance Step for OPLS, is developed to be used with PN 3G1200G00431, Upper Deck Maintenance Step Tool, during the Main Rotor area maintenance, Ref. Figure 9-1.

For a correct installation is it mandatory to:

1. Rotate the PN 3G1200G00431, Upper Deck Maintenance Step, of an 180° angle, as indicated on the tool;
2. Insert the HFHS-0616-32 PEM Studs, into the dedicated holes on the Upper Deck Maintenance Step; Ref Figure 9-1- a,
3. Fix the PEM Studs using the Lobe Knobs: Ref. Figure 9-1 – c.
4. Fix the structures using the lateral Lobe Knobs, present on the PN 3G1200G00431, as showed in the Ref. Figure 9-1 – a, Figure 9-1 – b.
 - The 3G1200G01131 presents a hole in the lateral fixing angle bar, that fits with the lateral screwed hole on 3G1200G00431.

The 3G1200G01131 Upper Deck Maintenance Step for OPLS is supplied with a case equipped with foam where to store it.

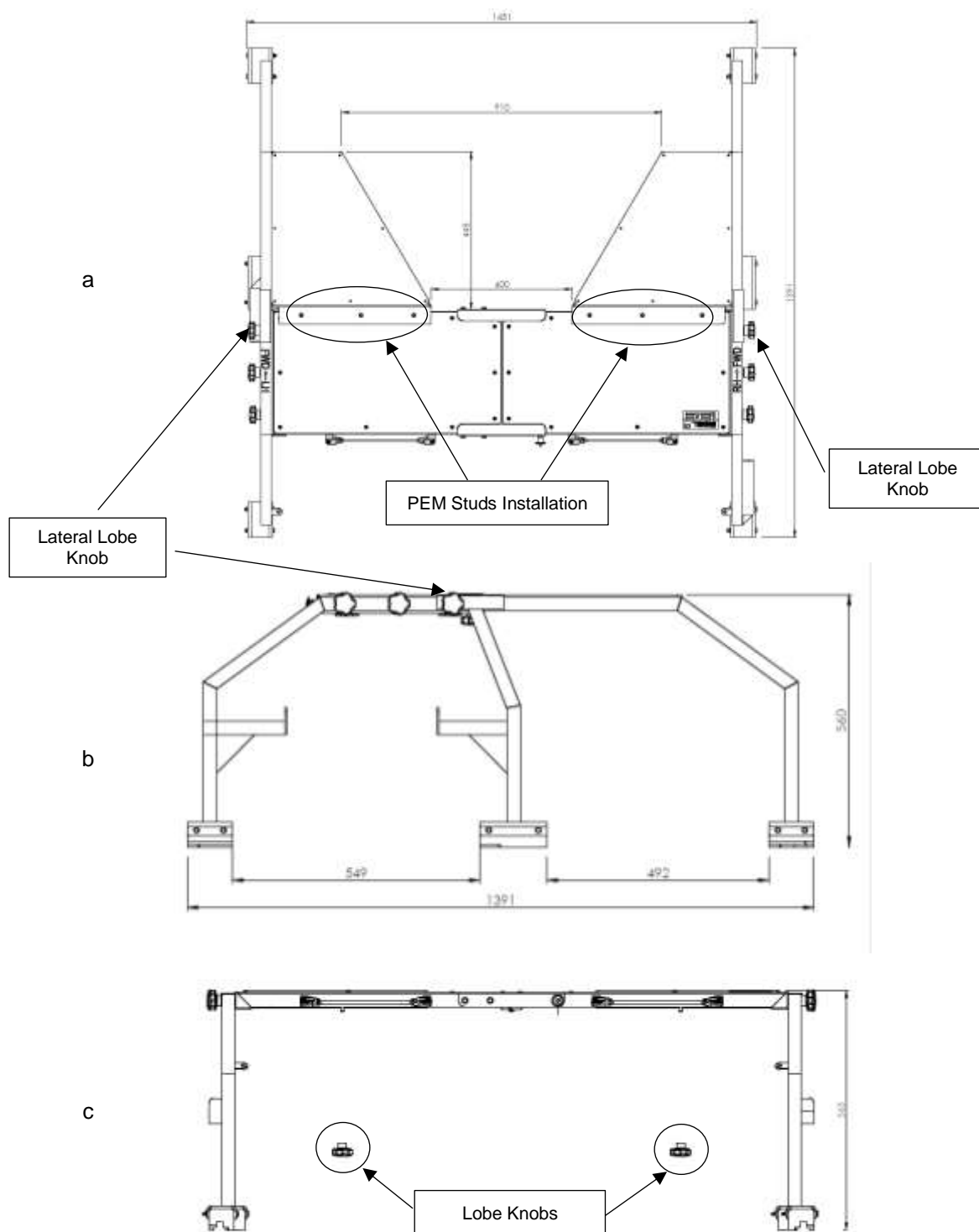


Figure 9-1 – Installation Scheme

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

Before starting to use the equipment it is necessary to perform a visual check of all parts and see if something is damaged or missing. Ref. 12.2.2.

Do not operate with a tool partially completed, or partially assembled.

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

This manual provides guidelines and instructions on the usage of the equipment that are in addition to – but are not intended to replace or modify but only to integrate – any general specific rule, regulation, decree or law that is in force in the place where the equipment is in use.

Use of the equipment for any operation other than that specified in this document is strictly prohibited.





Figure 10-1 – Safety Notes

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11. STORAGE

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

The Kit shall be stored in the dedicated transportation box (part of the Kit).

Ensure that the tool parts are clean before storage.

Due to the weight the kit must be moved by fork lift, or equivalent.

11.1. LUBRICATION BEFORE STORAGE

Apply the Grease (MIL-PRF-23827) on all threaded parts before tool storage.

11.2. STORAGE CONFIGURATION

The Toll has no 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.

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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

N/A

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 bonded parts: <ul style="list-style-type: none"> • 3G1200G02151 NAMEPLATE • A304A004A1 • A304A005A1
		Damage to the threads	All threaded std parts: <ul style="list-style-type: none"> • HFHS-0616-32 PEM Stud
Marking	All		

Table 4 – Visual Check

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12.2.3. PERIODICAL CHECKS

N/A

12.2.4. DIMENSIONAL CHECKS

N/A

12.2.5. SPECIAL CHECKS SUMMARY

N/A

12.3. REPLACEMENT

All the parts for which it is allowed the components replacement are listed in Paragraph 14.

12.3.1. REPLACEMENT PROCEDURES

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

13. CALIBRATION

No Calibration is required.

14. SPARE PARTS

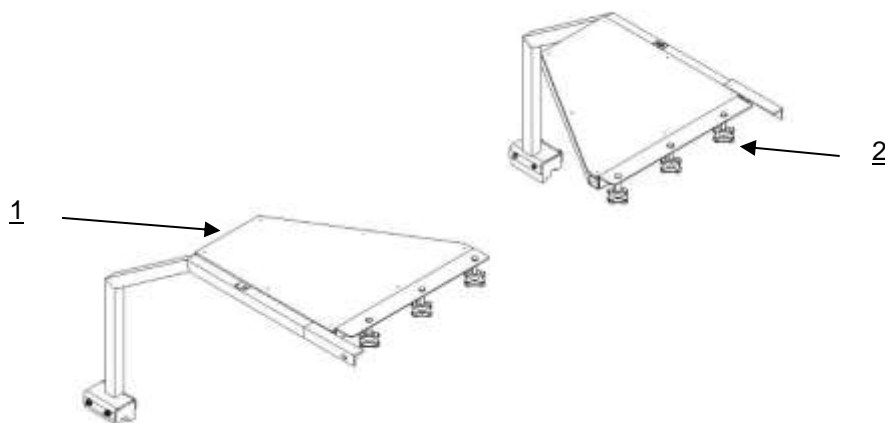


Figure 14-1 – Spare Parts

ITEM	P/N	DESCRIPTION	Q.TY
1	3G1200G01231	STEP FOR OPLS, LH	1
2	3G1200G01331	STEP FOR OPLS, RH	1

Table 5 – Spare Parts

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15. CE MARKING

N/A.



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

TLC_Table 2



TOOL LOG CARD

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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	