



# GSE & TOOL USE AND MAINTENANCE MANUAL

Manual number:  
**MAN-3G3340G00131**  
**REV. A**

Pag. 1 of 14

## GSE & TOOL MANUAL

**TITLE**

**SLIC MAINTENANCE CABLE RS422  
P/N 3G3340G00131**



	<b>GSE &amp; TOOL USE AND MAINTENANCE MANUAL</b>	Manual number: <b>MAN-3G3340G00131 REV. A</b>
		Pag. 2 of 14

## REVISION HISTORY

REV	CHANGE DESCRIPTION	DATE
A	First issue	16/02/2023

## SUMMARY

SUMMARY .....	3
LIST OF TABLE .....	4
LIST OF FIGURE .....	4
1. SCOPE .....	5
1.1. APPLICABILITY .....	5
1.2. OBJECT .....	5
1.3. WARNING AND SAFETY INSTRUCTIONS .....	5
2. DOCUMENTS .....	6
2.1. APPLICABLE DOCUMENTS .....	6
2.2. ACRONYMS USED .....	6
3. DESCRIPTION .....	6
4. TOP ASSEMBLY DRAWINGS .....	6
5. IDENTIFICATION .....	6
6. OVERALL DIMENSIONS .....	7
7. WEIGHT .....	7
8. MAIN PARTS .....	8
9. MAIN FEATURES DESCRIPTION .....	8
10. WARNING AND SAFETY NOTES .....	9
10.1. WARNING NOTE .....	9
10.2. SAFETY NOTES .....	10
11. STORAGE .....	11
11.1. LUBRICATION BEFORE STORAGE .....	11
11.2. STORAGE CONFIGURATION .....	11
12. MAINTENANCE .....	11
12.1. CLEANING .....	11
12.1.1. SPECIAL TOOLS, FIXTURE AND EQUIPMENT .....	11
12.1.2. PART REQUIREMENTS .....	11
12.1.3. MANUAL CLEANING .....	11
12.2. CHECKS .....	12
12.2.1. SPECIAL TOOLS, FIXTURE AND EQUIPMENT .....	12
12.2.2. VISUAL EXAMINATION .....	12
12.2.3. PERIODICAL CHECKS .....	13
12.2.4. DIMENSIONAL CHECKS .....	13
12.2.5. SPECIAL CHECKS SUMMARY .....	13
12.3. REPLACEMENT .....	13
12.3.1. REPLACEMENT PROCEDURES .....	13

	<b>GSE &amp; TOOL USE AND MAINTENANCE MANUAL</b>	Manual number: <b>MAN-3G3340G00131</b> <b>REV. A</b>
		Pag. 4 of 14

13.	CALIBRATION .....	13
14.	SHELF LIFE .....	13
15.	SPARE PARTS .....	13
16.	CE MARKING.....	13
	ANNEX A.....	14

**LIST OF TABLE**

Table 1 – Warning Instruction .....	5
Table 2 – Applicable Documents.....	6
Table 3 – Warning Note.....	9
Table 4 – Visual Check.....	12

**LIST OF FIGURE**

<i>Figure 1 – Tool, Cable, 25 Pin.....</i>	6
<i>Figure 2 – Identification P/N sleeve marker .....</i>	6
<i>Figure 3 – Main Parts .....</i>	8
<i>Figure 4 – Safety Notes.....</i>	10

## 1. SCOPE

### 1.1. APPLICABILITY




The contents of this document are meant to provide information on the P/N 3G23340G00131 SLIC MAINTENANCE CABLE RS422.

### 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 3G23340G00131 SLIC MAINTENANCE CABLE RS422.

### 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.

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

*Table 1 – Warning Instruction*

## 2. DOCUMENTS

### 2.1. APPLICABLE DOCUMENTS

The following table lists the applicable documents

REF	REFERENCE OF DOCUMENT	TITLE
N.A.	N.A.	N.A.

*Table 2 – Applicable Documents*

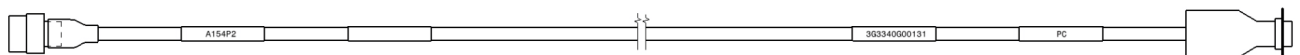
### 2.2. ACRONYMS USED

The main acronyms used in this document are listed below:

LHD	Leonardo Helicopter Division
P/N	Part Number
S/N	Serial Number
N.A.	Not Applicable
PC	Personal Computer

## 3. DESCRIPTION

This tool is used to Connect the PC to the Slaving Unit between FLIR and SX16.



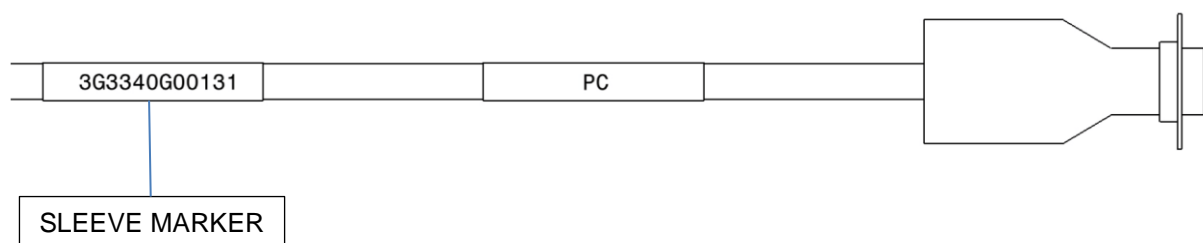
*Figure 1 – Tool, SLIC MAINTENANCE CABLE RS422*

## 4. TOP ASSEMBLY DRAWINGS

Refer to P/N 3G3340G00131 SLIC MAINTENANCE CABLE RS422.

## 5. IDENTIFICATION

The tool identification P/N is marked on the sleeve marker (Ref. Sleeve marker, Figure 2)



*Figure 2 – Identification P/N sleeve marker*



## GSE & TOOL USE AND MAINTENANCE MANUAL

Manual number:  
**MAN-3G3340G00131**  
**REV. A**

Pag. 7 of 14

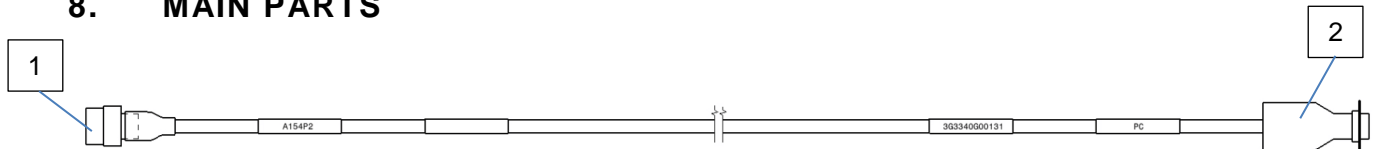
### **6. OVERALL DIMENSIONS**

- Length: 400 mm
- Width: 400 mm
- Height: 50 mm

### **7. WEIGHT**

- Total Weight: 1.5.

## 8. MAIN PARTS



*Figure 3 – Main Parts*

The main parts of the P/N 3G3340G00131 SLIC MAINTENANCE CABLE RS422 are:

1. Connection A154P2: Connector MS3476L10-6P
2. Connection PC: RS-232 to RS-422 interface converter







## 9. MAIN FEATURES DESCRIPTION

This tool is used to Connect the PC to the Slaving Unit between FLIR and SX16.



## 10. WARNING AND SAFETY NOTES

### 10.1. WARNING NOTE

 <b>Warning</b>	<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>
 <b>Caution</b>	
 <b>Notice</b>	<p>The Manual can never integrally replace the adequate competence of the user.</p>
 <b>Warning</b>	<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>
 <b>Caution</b>	
 <b>Notice</b>	<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*

	<b>GSE &amp; TOOL USE AND MAINTENANCE MANUAL</b>	Manual number: <b>MAN-3G3340G00131 REV. A</b> <hr/> Pag. 11 of 14
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## 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

Not Applicable.

### 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

N.A.

## 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	N.A.
		Marking	All
		Damage to the pins and to the shell	All connectors
		Damage to the insulation sleeves and wires	All cables

*Table 4 – Visual Check*

**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**

The components replacement is not applicable.

In case of several damage of the components shall request a new P/N 3G3340G00131 SLIC MAINTENANCE CABLE RS422.

**16. CE MARKING**

No CE marking is required for the P/N 3G3340G00131 SLIC MAINTENANCE CABLE RS422.

	<b>GSE &amp; TOOL USE AND MAINTENANCE MANUAL</b>	Manual number: <b>MAN-3G3340G00131 REV. A</b> <hr/> Pag. 14 of 14
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# **ANNEX A**

## **TOOL LOG CARD**



# TOOL LOG CARD

ISSUE -/  
Pag. 1 of 3

<b>TOOL KIT P/N:</b> [1]	<b>TOOL KIT DESCRIPTION:</b> [2]	<b>TOOL KIT S/N:</b> [3]
<b>TOOL P/N:</b> [4]	<b>TOOL S/N:</b> [5]	<b>REMARKS:</b> [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							
<b>FINAL ACCEPTANCE [16]</b>							
<b>STAMP &amp; SIGNATURE [17]</b>						<b>DATE [18]</b>	

TLC\_Table 1



# TOOL LOG CARD

ISSUE -/-  
Pag. 2 of 3

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

<b>Section 2: HISTORICAL USES RECORD</b>							
[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

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