



GSE & TOOL USE AND MAINTENANCE MANUAL

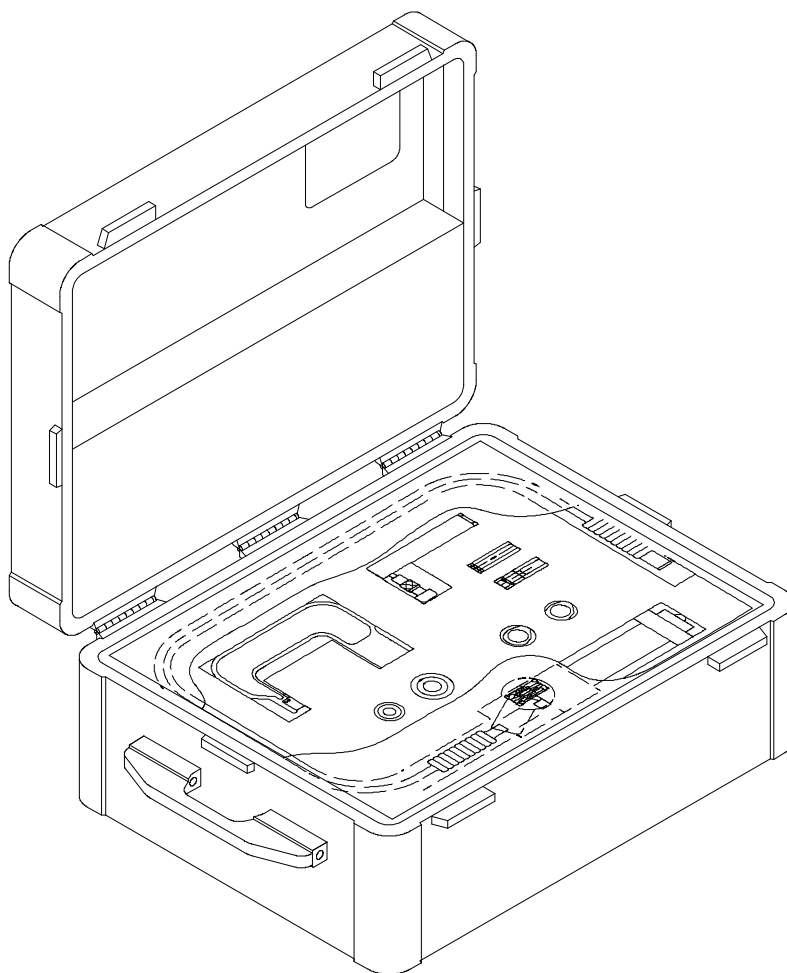
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GSE & TOOL MANUAL

TITLE

**TOOL KIT, M/R DAMPER ATTACHING BOLT REMOVAL
P/N 3G6205G21631**



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REVISION HISTORY

REV	CHANGE DESCRIPTION	DATE
A	First issue	27/10/2021

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1. SCOPE

1.1. APPLICABILITY

The contents of this document are meant to provide information on the P/N 3G6205G21631 TOOL KIT, M/R DAMPER ATTACHING BOLT REMOVAL.

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 3G6205G21631 TOOL KIT, M/R DAMPER ATTACHING BOLT REMOVAL.

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
N.A.	N.A.	N.A.

Table 2 – Applicable Documents

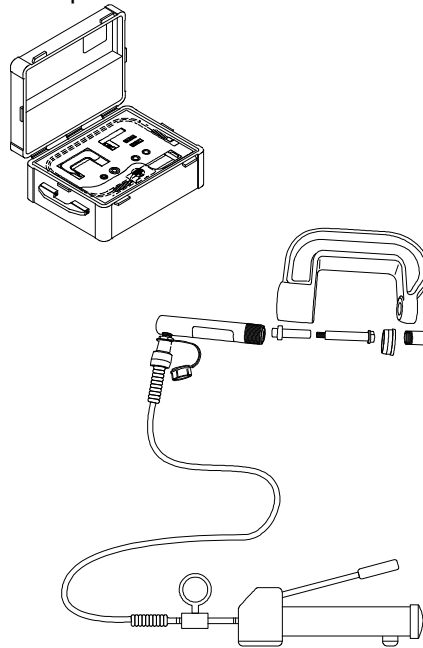
2.2. ACRONYMS USED

The main acronyms used in this document are listed below:

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

3. DESCRIPTION

This tool kit is used on aircraft, at the organization level, to pull out the bolt that attaches the Main Rotor damper to the Main Rotor hub and the bolt that attaches the Main Rotor damper to the Main Rotor pitch control lever. It is used in conjunction with an approval hydraulic jack during the removal procedure of the Main Rotor damper from the helicopter.



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Figure 1 – Tool Kit, M/R Damper Attaching Bolt Removal

4. TOP ASSEMBLY DRAWINGS

Refer to P/N 3G6205G21631 TOOL KIT, M/R DAMPER ATTACHING BOLT REMOVAL.

5. IDENTIFICATION

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

AGUSTA			
P/N	3 G 6 2 0 5 G 2 1 6 3 1		
MFG. DATE		MOD	
C. I.		GRWT Kg.	

Figure 2 – LHD Identification tag with P/N



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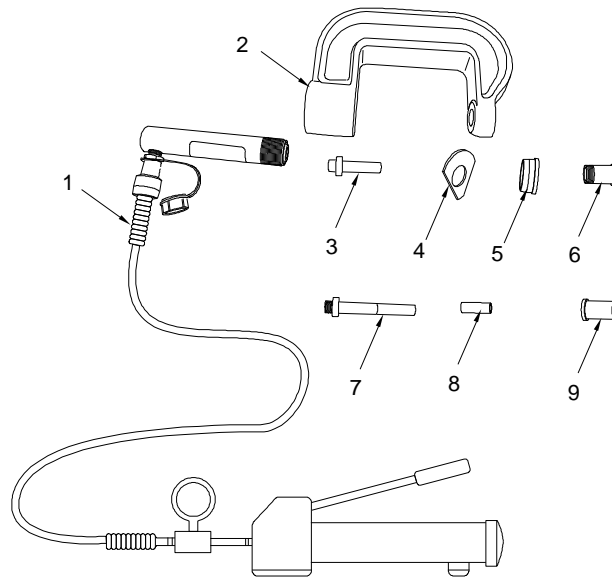
6. OVERALL DIMENSIONS

- Length: 801 mm
- Width: 521 mm
- Height: 317 mm

7. WEIGHT

- Total Weight: 25 kg

8. MAIN PARTS



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Figure 3 – Main Parts

The main parts of the TOOL KIT, M/R DAMPER ATTACHING BOLT REMOVAL are:

1. Pump Cylinder Set
2. Clamp Assy
Rem. Lever
3. Puller Assy Lever
4. Lever Protection
5. Spacer
6. Protection Bushing
Rem. Hub
7. Puller Assy Hub
8. Guide Bushing
9. Protection Bushing

9. MAIN FEATURES DESCRIPTION

The tool is composed of following tool:

Clamp assy

Pump cylinder set, composed by a pump with a manometer used to verify the pressure of the hydraulic fluid and by a hydraulic cylinder used to push out the bolt. The function of this tool is to create enough pressure to extend a sufficient portion of the hydraulic cylinder in order to push out the bolt with the puller assy MR Lever or with the puller assy MR hub.

Puller assy MR lever, used to push out the bolt of the Main Rotor pitch control lever when the portion of the pump cylinder set is extended.

Puller assy MR hub, used to push out the bolt of the Main Rotor hub when the portion of the pump cylinder set is extended.

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

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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.

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	Item 2, Nameplate, Figure 5 , page 15 Item 6, Plate Identification, Figure 5 , page 15
		Damage to the threads	N.A.
		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.

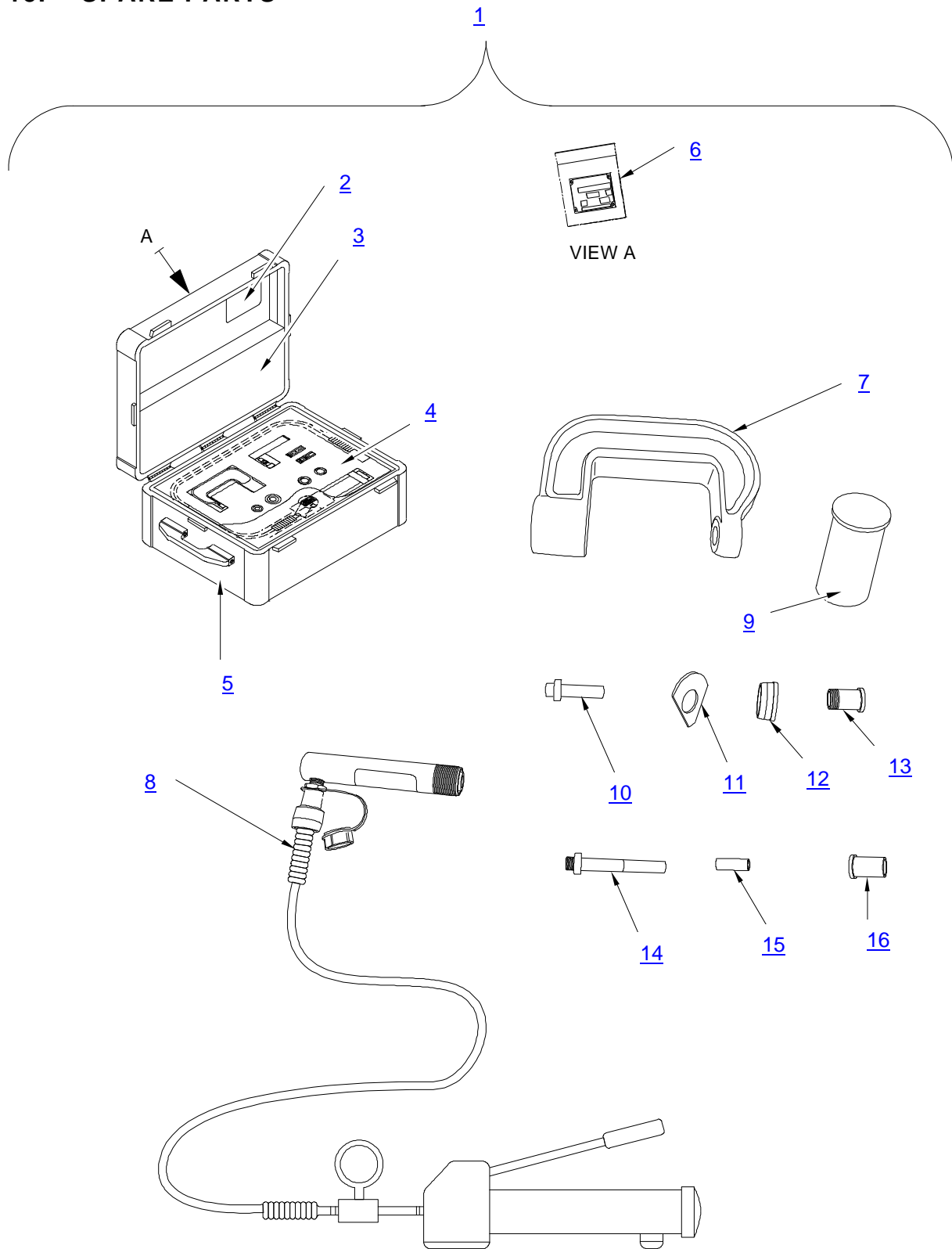
13. CALIBRATION

No Calibration is required.

14. SHELF LIFE

Not Applicable.

15. SPARE PARTS



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Figure 5 – Spare Parts



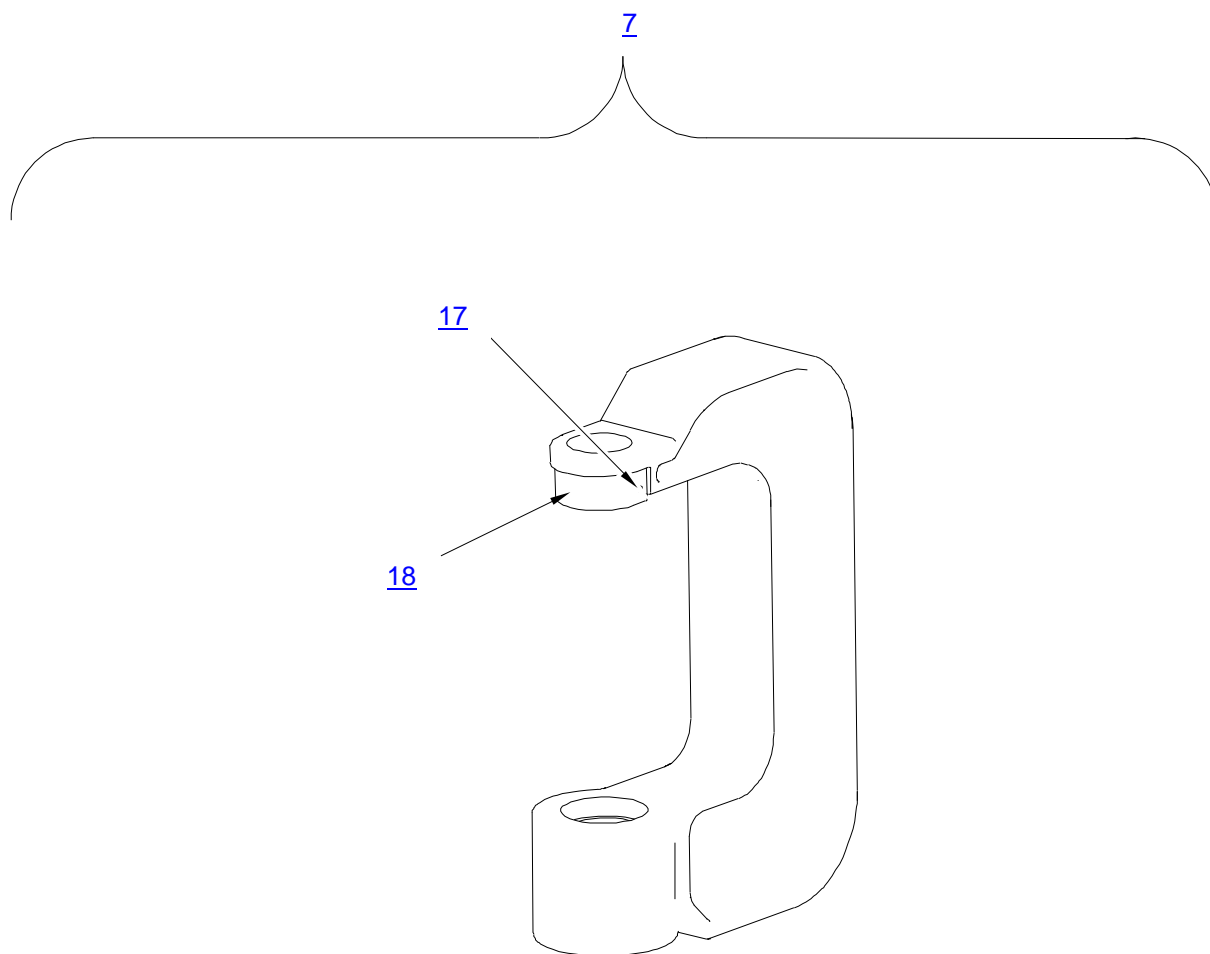
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ITEM	P/N	DESCRIPTION	Q.TY
1	3G6205G21631	TOOL KIT, M/R DAMPER ATTACHING BOLT REMOVAL	REF.
2	3G6205G24951	NAMEPLATE	1
3	3G6205G24851	UPPER FOAM	1
4	3G6205G24751	LOWER FOAM	1
5	1650	CASE	1
6	A304A001A1	PLATE, IDENTIFICATION	1
7	3G6205G25031	CLAMP ASSY (For Breakdown ref. to Figure 6 and Table 6)	1
8	SCR-55H	PUMP CYLINDER SET	1
9	PL2177	CLEAR POT	1
10	3G6205G25831	PULLER ASSY, LEVER (For Breakdown ref. to Figure 7 and Table 7)	1
11	3G6205G26351	LEVER PROTECTION	5
12	3G6205G26251	SPACER	1
13	3G6205G26151	PROTECTION BUSHING, LEVER	1
14	3G6205G25331	PULLER ASSY, HUB (For Breakdown ref. to Figure 8 and Table 8)	1
15	3G6205G25651	GUIDE BUSHING	1
16	3G6205G25751	PROTECTION BUSHING, HUB	1

Table 5 – Spare Parts

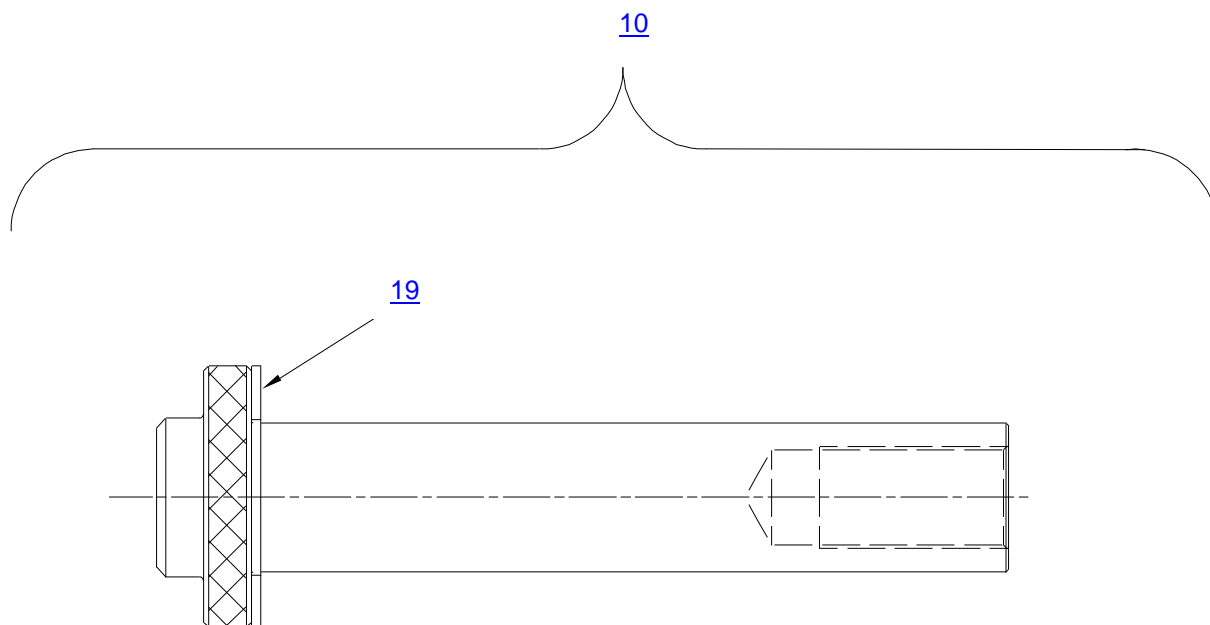


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Figure 6 – Spare Parts

ITEM	P/N	DESCRIPTION	Q.TY
7	3G6205G25031	CLAMP ASSY	REF.
17	MS24693-C420	SCREW, MACHINE	4
18	3G6205G25251	CLAMP PROTECTION	1

Table 6 – Spare Parts

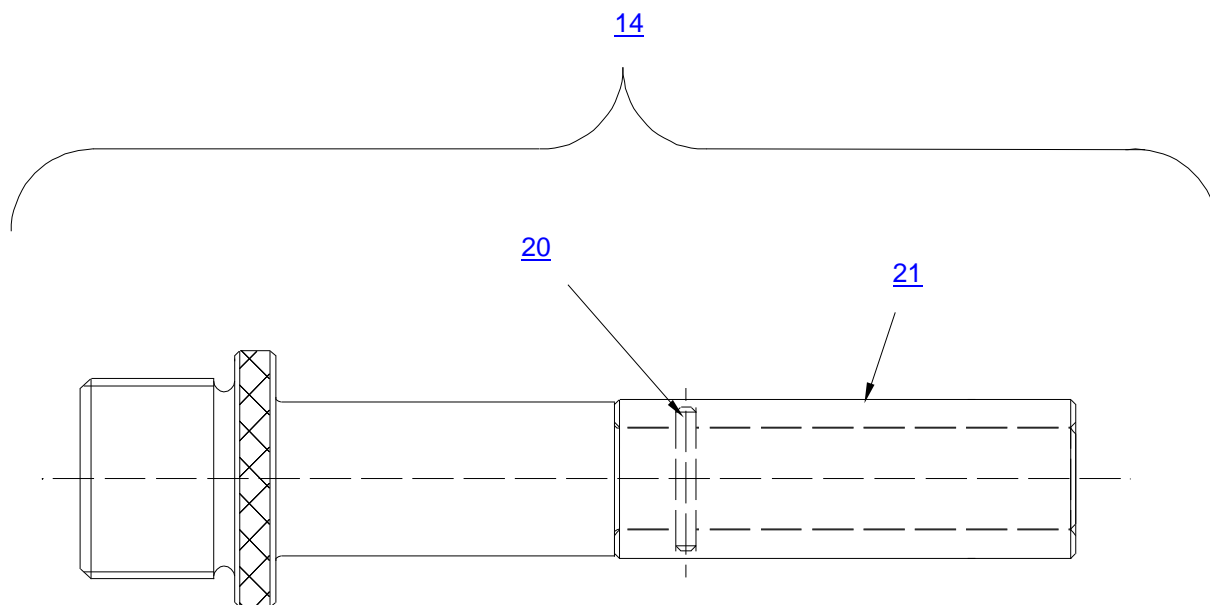


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Figure 7 – Spare Parts

ITEM	P/N	DESCRIPTION	Q.TY
10	3G6205G25831	PULLER ASSY, LEVER	REF.
19	3G6205G26051	PROTECTION WASHER	1

Table 7 – Spare Parts



3G6205G21631_6

Figure 8 – Spare Parts

ITEM	P/N	DESCRIPTION	Q.TY
14	3G6205G25331	PULLER ASSY, HUB	REF.
20	MS16556-620	PIN, STRAIGHT, HEADLESS	1
21	3G6205G25551	HUB PROTECTION	1

Table 8 – Spare Parts

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16. CE MARKING

No CE marking is required for the P/N 3G6205G21631 TOOL KIT, M/R DAMPER ATTACHING BOLT REMOVAL.



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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	