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ENGLISH

BATTERY OPERATED HYDRAULIC CRIMPING TOOL






B15MA

OPERATION AND MAINTENANCE MANUAL



**WARNING LABELS - ETIQUETTES SIGNALÉTIQUES - WARNSCHILDER -
ETIQUETAS DE ATENCION - ETICHETTE D'AVVERTENZA**

Tool - Outil - Werkzeug - Herramienta - Utensile

	<p>- Before using the tool, carefully read the instructions in this manual.</p>
	<p>- When operating the tool, keep hands away from the danger zone.</p>
	<p>- See page 8.</p>

Battery - Batterie - Akku - Batería - Batteria




	<p>- Never throw batteries into fire or water.</p>
	<p>- Always recycle the batteries.</p>
	<p>- Do not discard batteries into domestic refuse or waste disposal.</p>

FIG. 1



BATTERY OPERATED HYDRAULIC CRIMPING TOOL

1. GENERAL CHARACTERISTICS

TOOL TYPE:		B15MA
Application range:		suitable for installing electrical compression connectors for conductors up to 16 mm ² (6 AWG)
Crimping force	kN (sh ton):	15 (1.7)
Rated operating pressure	bar (inches):	340 (4,900)
Dimensions LxWxH	mm (inches):	337 x 133 x 81 (13.3 x 5.3 x 3.2)
Weight with battery	Kg (lbs):	1,74 (3.8)
Motor	Volt DC:	18
Battery type CB1820L	Volt / Ah:	18 / 2.0 Li-Ion
Recommended oil:		AGIP ARNICA 22 or ESSO INVAROL EP22 or equivalent
Safety:		the tool is equipped with a maximum pressure valve
Operating temperature	°C (°F):	-15 to +50 (+5 to +122)
Battery charger ASC30-36		USA/CAN 27046000
Input	Volt / Hz:	115 / 60
	W:	85
Acoustic Noise (Directive 2006/42/EC, annexe 1, point 1.7.4.2 letter u)		
– The weighted continuous acoustic pressure level equivalent		
A at the work place L_{pA} is equal to		64,9 dB (A)
– The maximum value of the weighted acoustic displacement		
pressure C at the work place L_{pCpeak} is equal to		99,7 dB (C)
– The acoustic power level emitted by the machine		
L_{WA} is equal to		69,3 dB (A)
Risks due to vibration (Directive 2006/42/EC, annexe 1, point 2.2.1.1)		
Tests carried out in compliance with the indications contained in UNI ENV 25349 and UNI EN 28662 part 1 st Standards, and under operating conditions much more severe than those normally found, certify that the weighted root mean square in frequency of the acceleration the upper limbs are exposed to for each biodynamic reference axis is 0,527 m/sec² max.		

The part reference includes the following:

- Basic tool complete with battery.
- Spare battery.
- Battery charger (model depends on the tool version).
- Plastic carrying case.

2. INSTRUCTIONS FOR USE



WHEN INTRODUCING OR CHANGING DIES,
THE BATTERY MUST FIRST BE REMOVED FROM THE TOOL

2.1) Preparation (Ref. to Figs. 1, 2)

With the tool in the rest position and without battery, proceed as follows:

Select the appropriate die set for the connector (see Table page 24).

Locate the dies in the head, **always inserting the lower one first (with the slot):**

- 1 Press the button (62) and insert the lower die into its seat, then release the button to lock it in position.
- 2 Press the button (65) and insert the upper die into its seat, then release the button to lock it in position.

Dies are uni-positional and cannot be inserted into the wrong seats.

THE LOWER DIE MUST ALWAYS BE INSERTED FIRST

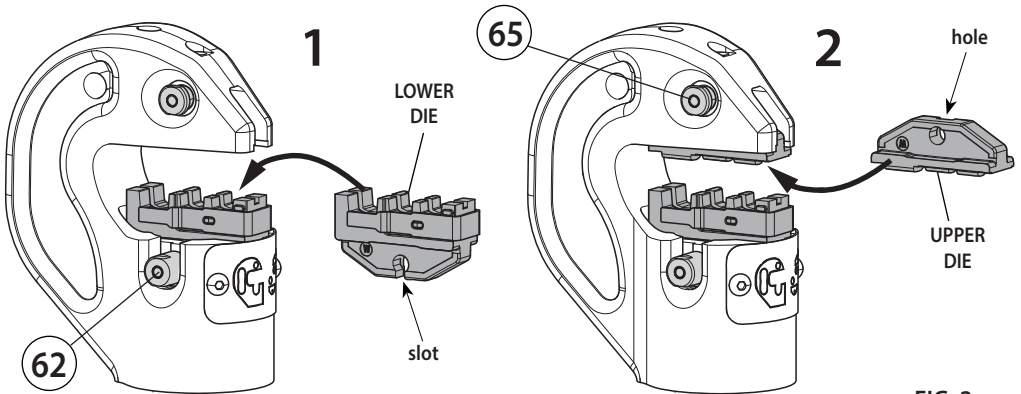


FIG. 2

2.2) Die advancement

Insert the battery into its seat (Ref. to § 2.8).

Grip the tool firmly and comfortably. Position the connector between the dies and ensure the correct location of the crimp.

Press operating button (4) until the dies are close to the connector **without crimping it**, then release the button (4): the connector will be held in position without deforming it.

Make sure the dies are exactly positioned on the desired crimp point otherwise re-open dies following instructions as per § 2.4 and reposition the connector.

2.3) Compression

– Insert the conductor in to the connector and press the operating button (4): the ram will gradually move forward until the two dies touch.

It is recommended to keep operating until the maximum pressure valve is activated and a "click" is heard, after which the dies will automatically re-open until the ram is fully retracted.

It is always possible to interrupt automatic retraction of the ram by a short push on the operating button (3).

- The motor will continue to operate after the maximum pressure relief valve has activated. No further crimping force is applied, the oil is bypassed and returned to the reservoir.

2.4) Release of dies

Press the pressure release button (9), the ram will retract and open the dies.

2.5) Head rotation

For ease of operation the tool head can rotate through 340°, allowing the operator to work in the most comfortable position.

Warning: do not attempt to rotate the head when the hydraulic circuit is pressu-rised.

2.6) Replacement of dies

To replace the dies, extract them from their seats by pressing the buttons (62 and 65).

THE UPPER DIE MUST ALWAYS BE EXTRACTED FIRST

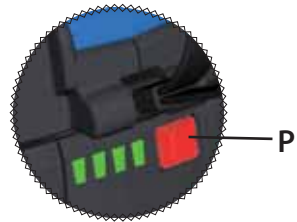
2.7) Battery status

The battery is equipped with LED indicators that indicate the remaining battery life at any time by pressing the adjacent button (P).

4 LEDs illuminated: Fully charged

2 LEDs illuminated: 50 % capacity

1 LED flashing: Minimum charge, replace the battery



2.8) Insertion/replacement of battery

To replace the battery, remove it by pressing the release button (15) (Ref. to Fig.4 page 24), then insert the new battery, sliding it into the guides until it locks.

3. WARNING

Before starting work on electrical equipment, please ensure that either there are no live parts in the immediate working area or that precautions are taken for working near live parts in accordance with EN50110-1.

⚠ DO NOT USE THIS TOOL ON OR NEAR ENERGIZED CONDUCTORS WITHOUT PROPER PERSONAL PROTECTIVE EQUIPMENT. FAILURE TO OBSERVE THIS WARNING COULD RESULT IN SEVERE INJURY OR DEATH.

⚠ THE TOOL IS UNSUITABLE FOR CONTINUOUS USE AND SHOULD BE ALLOWED TO COOL DOWN FOLLOWING UNINTERRUPTED, SUCCESSIVE OPERATIONS; FOR INSTANCE, HAVING EXHAUSTED A FULLY CHARGED BATTERY IN ONE SESSION, DELAY BATTERY REPLACEMENT FOR A FEW MINUTES.

OBSERVE RECOMMENDED REST PERIODS ALSO WHEN USING AN EXTERNAL POWER SUPPLY.

⚠ PROTECT THE TOOL FROM RAIN AND MOISTURE. WATER WILL DAMAGE THE TOOL AND BATTERY. ELECTRO-HYDRAULIC TOOLS SHOULD NOT BE OPERATED IN POURING RAIN OR UNDER WATER.

3.1) Using the battery charger

Carefully follow the instructions in the battery charger manual.

4. MAINTENANCE

The tool is robust, completely sealed, and requires very little daily maintenance.

Compliance with the following points, should help to maintain the optimum performance of the tool:

4.1) Thorough cleaning

Dust, sand and dirt are a danger for any hydraulic device.

Every day, after use, the tool must be wiped with a clean cloth taking care to remove any residue, especially close to moveable parts.

4.2) Storage

When not in use, the tool should be stored and transported in the plastic case to prevent damage. The case is suitable for storing the tool, the accessories and die sets.

Plastic case: **VAL P22**, size 465x315x135 mm (18.3x12.4x5.3 in.) weighs 1,5 kg (3.3 lbs).

5. RETURN TO **Cembre** FOR OVERHAUL

In the case of a breakdown contact our **Local Agent** who will advise you on the problem and give you the necessary instructions on how to dispatch the tool to our **nearest service Centre**; if possible, attach a copy of the Test Certificate supplied by **Cembre** together with the tool or, if no other references are available, indicate the approximate purchase date and the tool serial number.

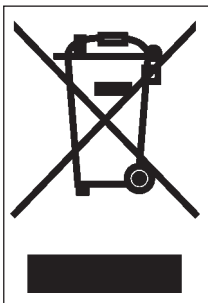


FIG. 4

TABLE 1

CRIMPING DIES				
Conductor size mm ² (AWG)		Connector type	DIE SET	
0,25 ÷ 16	22 ÷ 6	A... ; L...-M ; L...-P ; S... ; RN... ; BN... ; GN...	MA03/3-15	☺
1,5 ÷ 10	16 ÷ 8	A... ; L...-M ; L...-P	ME03/2-15	
10 ÷ 16	8 ÷ 6	A... ; 2A... ; L...-M ; L...-P	ME2/3-15	⬡
4 ÷ 10	12 ÷ 8	T... (NF C 20130) ; L...-T	MS4/10-15	
10 ÷ 16	8 ÷ 6	T... (NF C 20130) ; L...-T	MS10/16-15	
10 ÷ 16	8 ÷ 6	HR... ; HSV...	MH10/16-15	
6 ÷ 16	10 ÷ 6	DR... (DIN 46235) ; DSV... (DIN 46267 T1)	MK5/8-15	
10 ÷ 16	8 ÷ 6	ANE... ; AN... ; IN...	NN4-15	☺
0,25 ÷ 6	22 ÷ 10	R... ; B... ; G... ; PL... ; NL...	RBY-15	⬢
0,3 ÷ 4	22 ÷ 12	PKE ; PKC ; PKD ; PKT ; KE	KE4-15	☒
4 ÷ 16	12 ÷ 6	PKE ; PKC ; PKD ; PKT ; KE	KE16-15	
16 ÷ 35	6 ÷ 2	PKE ; PKC ; PKD ; PKT ; KE	KE35-15	

- Following information applies in member states of the European Union:



USER INFORMATION in accordance with “Directives 2002/95/EC and 2002/96/EC regarding the reduction of hazardous substances in electrical and electronic equipment, including the disposal of waste”.

The 'Not in the bin' symbol above when shown on equipment or packaging means that the equipment must, at the end of its life, be disposed of separately from other waste.

The separate waste collection of such equipment is organised and managed by the manufacturer.

Users wishing to dispose of such equipment must contact the manufacturer and follow the prescribed guidelines for its separate collection.

Appropriate waste separation, collection, environmentally compatible treatment and disposal is intended to reduce harmful environmental effects and promote the reuse and recycling of materials contained in the equipment.

Unlawful disposal of such equipment will be subject to the application of administrative sanctions provided by current legislation.

SPARE PARTS LIST

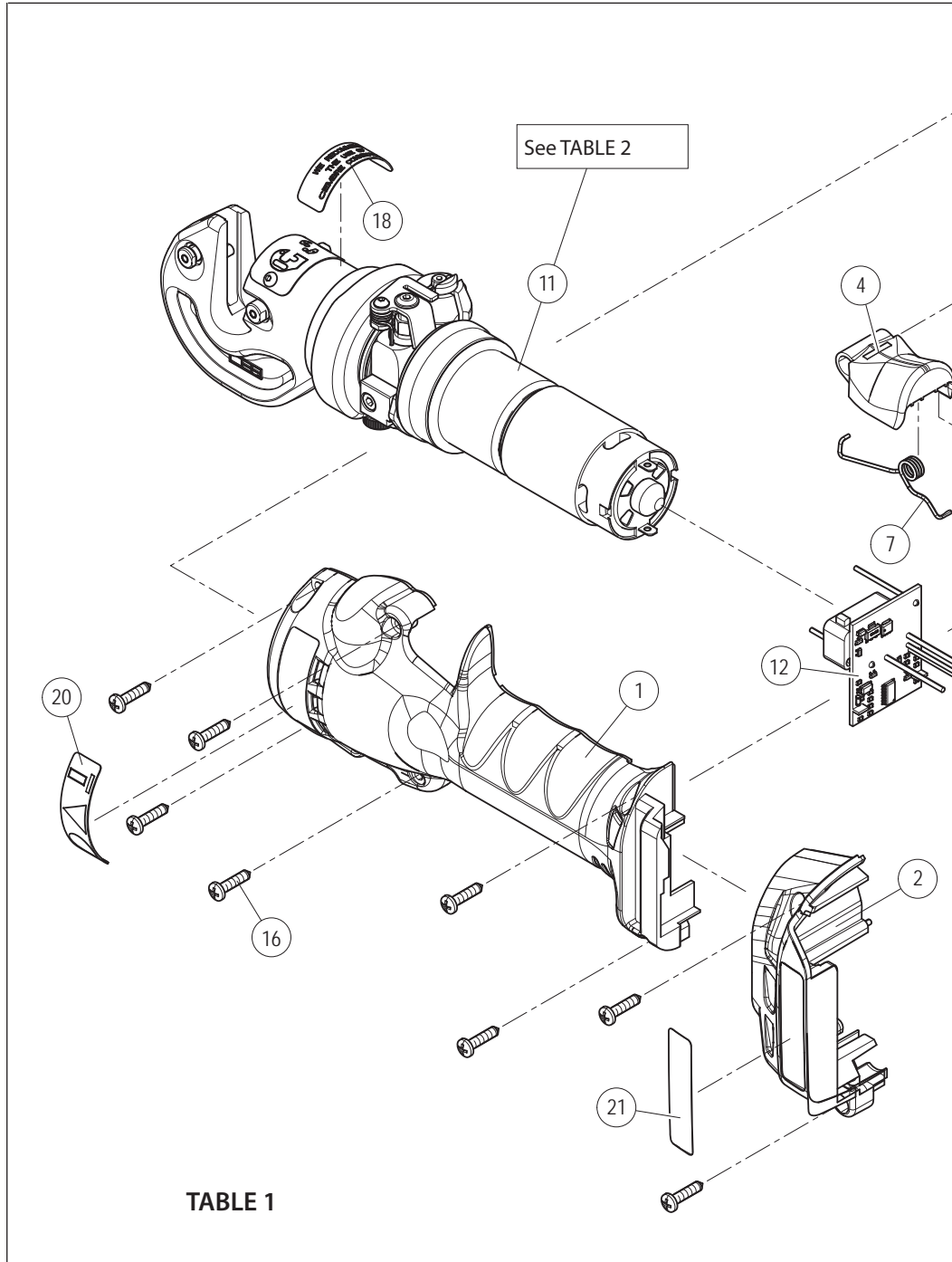
*The guarantee is void if parts used are not **Cembre** original spares.*

When ordering spare parts always specify the following:

- code number of item
- name of item
- type of tool
- serial number of tool

TABLE 1

Code N°	Item	DESCRIPTION	Qty
6000577	1	BODY RIGHT+LEFT SHELL	1
6000128	2	BATTERY ADAPTER SHELL R+L	1
2598495	3	BATTERY CB1820L Li-Ion 18V 2Ah	1
6000217	4	OPERATING BUTTON	1
6000127	5	SHUTTER	1
6000591	6	ROD	1
6000593	7	SPRING	1
6000150	8	CONTACT SUPPORT	1
6000218	9	PRES. RELEASE BUTTON	1
6000582	10	PRES. RELIEF BUTTON STRIKER	1
-	11	MECHANICAL GROUP	1
6004168	12	COMPLETE ELECTRIC CIRCUIT	1
6000126	13	SHUTTER	1
6000589	14	WRIST STRAP	1
6006211	15	BATTERY RELEASE	1
6900650	16	SCREW	8
6520531	17	SPRING	1
6232513	18	LABEL TG.0722	1
6232756	19	LABEL TG.1001	1
6232500	20	LABEL TG.0704	1
6232676	21	LABEL TG.0919	2



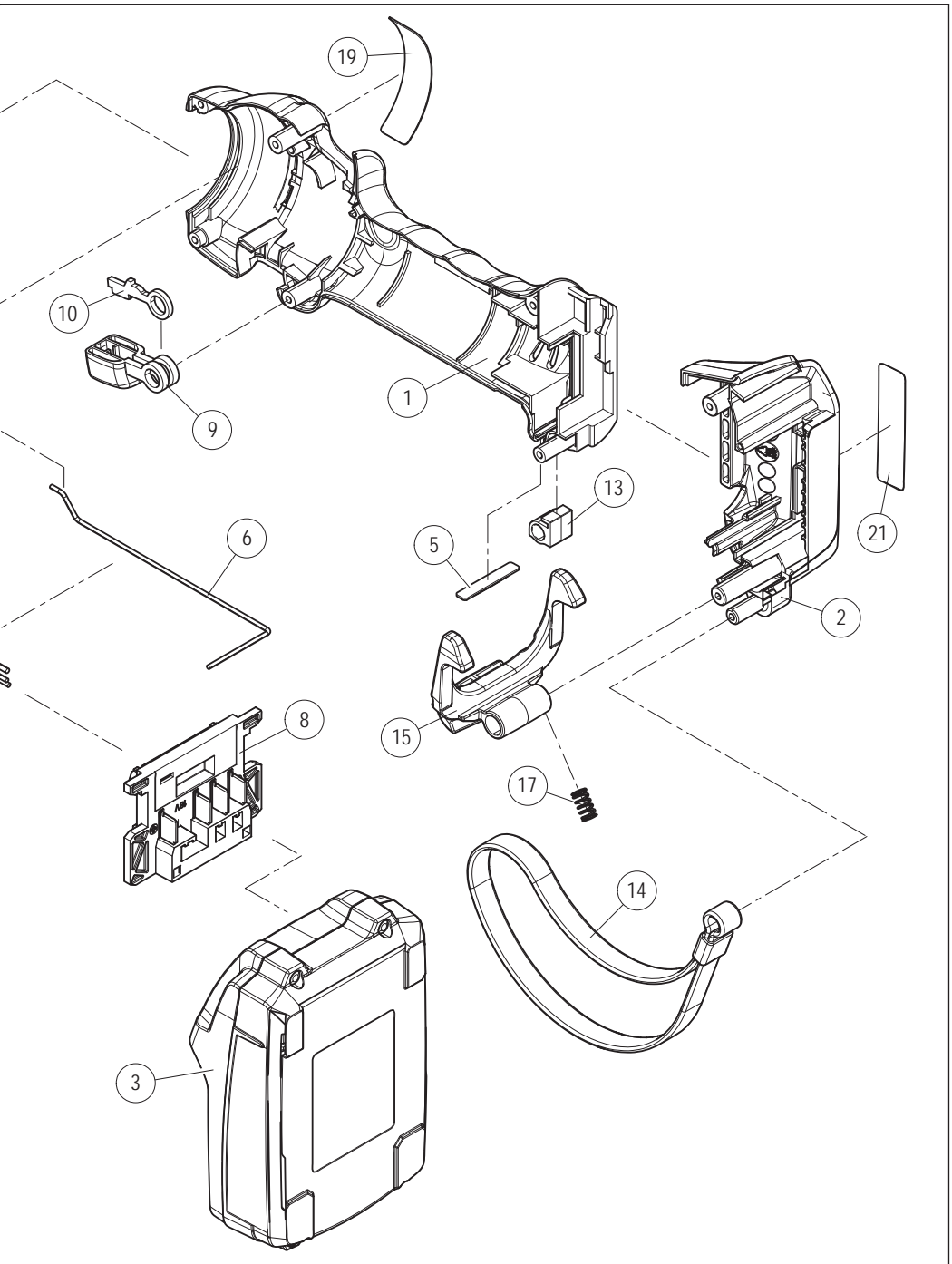




TABLE 2 (ITEM 11)

Code N°	Item		DESCRIPTION	Qty
6000566	54		RING	1
6000199	200		ACTUATING MECHANICAL GROUP	1
6000357	200	1	HOUSING	1
6000358	200	4	GEAR	1
6760004	200	8	PIN D. 2x8	3
6900008	200	9	SCREW M3x6	2
6000849	200	10	WASHER D. 3 SCHNORR	2
6740020	200	11	BALL 1/4"	2
6000363	200	15	GEAR	3
6402009	200	16	BEARING	1
6402006	200	17	WASHER	1
6000328	200	18	WASHER	1
6760012	200	19	PIN D.2X14	2
6000315	200	20	SPACER 0.2 mm	3
6000231	200	210	COMPLETE DISC	1
6000229	200	210 6	DISC	1
6000227	200	210 7	BALL SUPPORT	1
6700080	200	210 8	CIRCLIP D.6	1
6650136	200	210 9	WASHER	1
6000232	200	220	COMPLETE CAM	1
6000198	200	250	COMPLETE MOTOR	1
6006285	300		HYDRAULIC GROUP	1
6000560	300	15	RING	1
6720072	300	16	RESERVOIR	1
6300027	300	17	VALVE PISTON	1
6000561	300	18	GRUB SCREW	1
6520232	300	19	SPRING	1
6620378	300	21	PUMPING RAM	1
6000563	300	24	VALVE ROD	1
6000575	300	26	SPRING SUPPORT	1
6000565	300	27	CAP	1
6641027	300	30	WASHER	1
6000567	300	31	LOCKNUT	1
6000603	300	45	PRES.RELEASE LEVER	1
6000570	300	57	SPRING	1
6740100	300	62	BALL 5/32"	1
6520160	300	63	SPRING	1
6340590	300	64	GRUB SCREW	1
6520200	300	65	SPRING	1

Code N°	Item		DESCRIPTION	Qty
6740120	300	66	BALL 7/32"	1
3041735	300	67	TIE	2
6640205	300	68	WASHER ø4 SCHNORR	1
6900052	300	69	SCREW M4x6	1
6000602	300	70	SPRING	1
6900054	300	71	SCREW M4x6	1
6360022	300	72	O-RING	1
6360125	300	75	O-RING	1
6641020	300	77	WASHER D6 CU	1
6000318	300	78	SPRING GUIDE	1
6160079	300	310	BODY	1
6000697	300	320	RELEASE GROUP	1
6520240	300	320 1	SPRING	1
6000318	300	320 2	SPRING GUIDE	1
6900021	300	320 3	SCREW M3x8	1
6000849	300	320 4	WASHER D. 3 SCHNORR	1
6000608	300	320 65	SPRING SUPPORT	1
6000153	300	350	CAP	1
6000588	300	360	LEVER SUPPORT	1
6000601	300	400	COMPLETE MEMBRANE	1
6900602	300	500	SUCTION SCREW	1
6860146	600		COMPLETE HEAD	1
6361879	600	4	O-RING	1
6900011	600	5	SCREW M3x5	2
6520404	600	6	SPRING	2
6900013	600	7	SCREW M3x4	1
6370203	600	32	"C" HEAD	1
6000562	600	33	RING	1
6000569	600	36	SCREW	1
6620121	600	37	RAM	1
6520510	600	41	SPRING	1
6520511	600	42	SPRING	1
6000574	600	50	LOWER DIE HOLDER	1
6000592	600	58	METAL LABEL TG0718	1
6000604	600	61	PIN	1
6000605	600	62	RELEASE BUTTON	1
6000606	600	63	PIN	1
6000607	600	64	PIN	1
6000608	600	65	RELEASE BUTTON	1


TIGHTENING TORQUE

8 Nm (5.9 lbf ft)

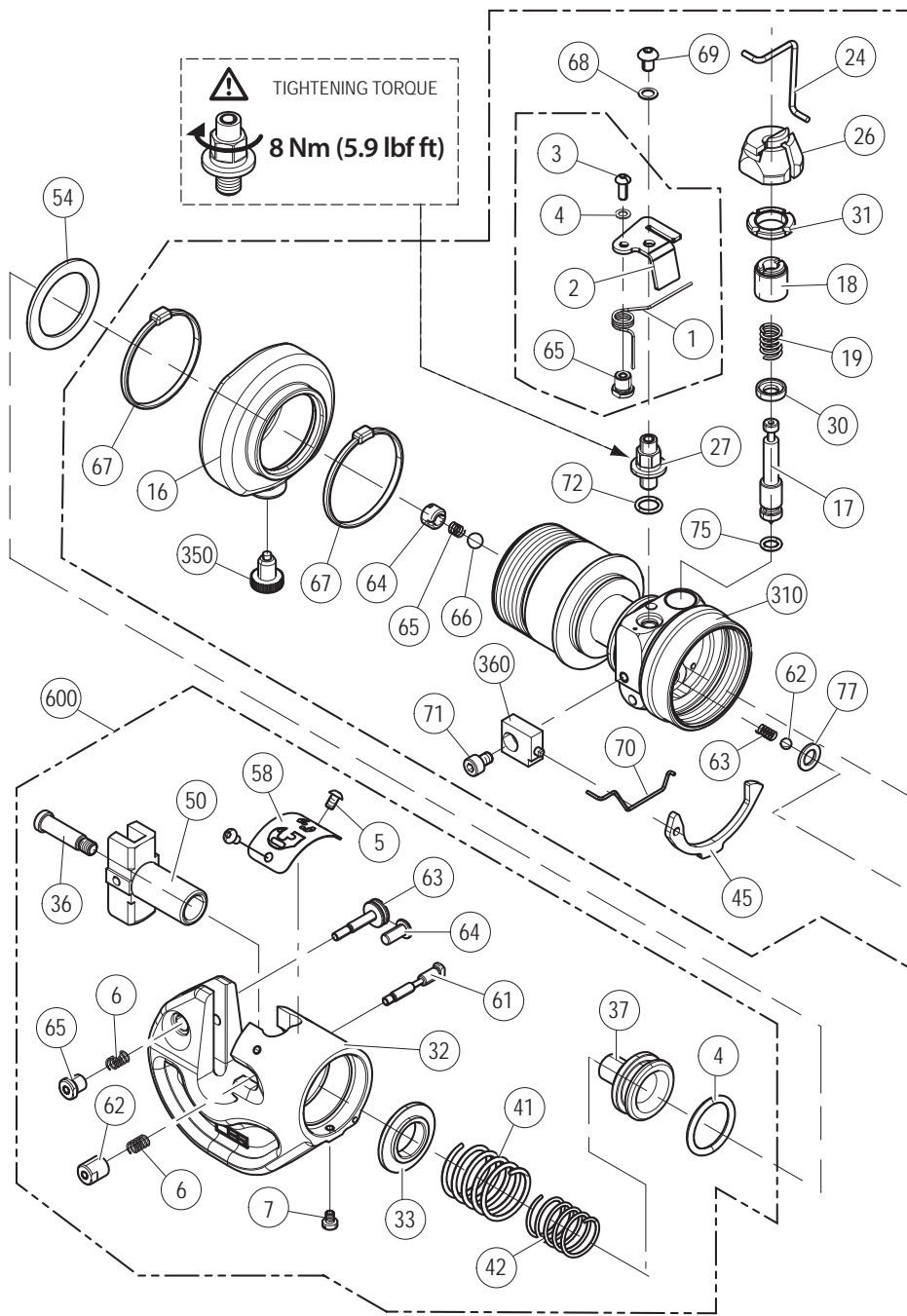
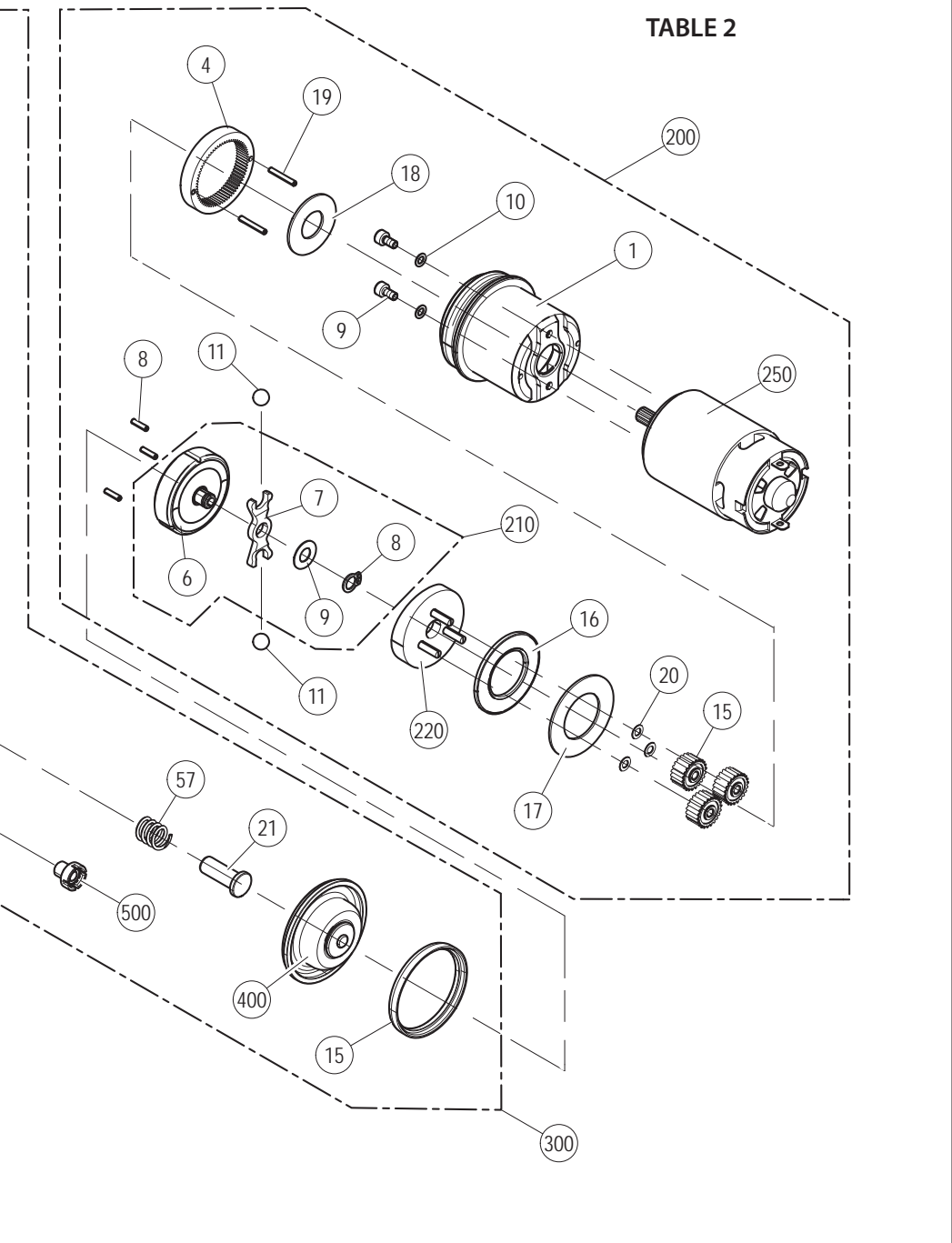


TABLE 2





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