

## BATTERY OPERATED HYDRAULIC CRIMPING TOOL

### B1300L-CA B1300LN-CA

CE



ENGLISH

OPERATION AND MAINTENANCE MANUAL

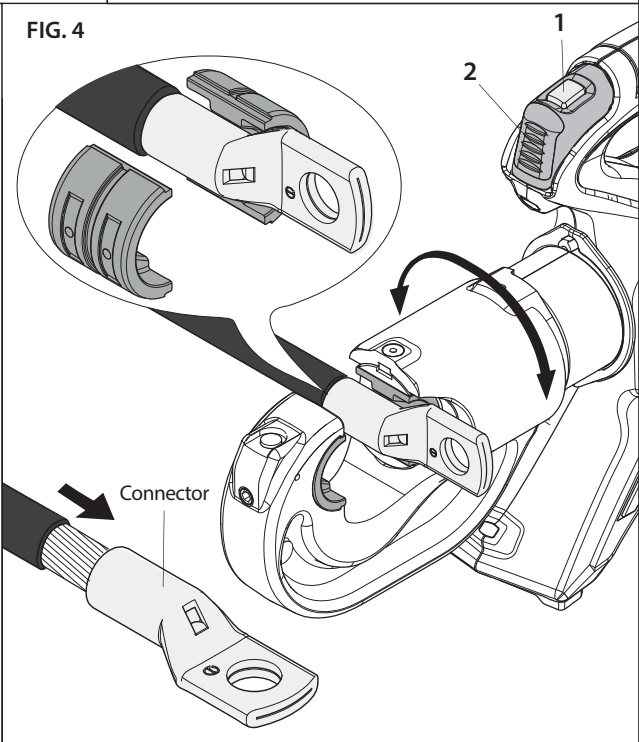
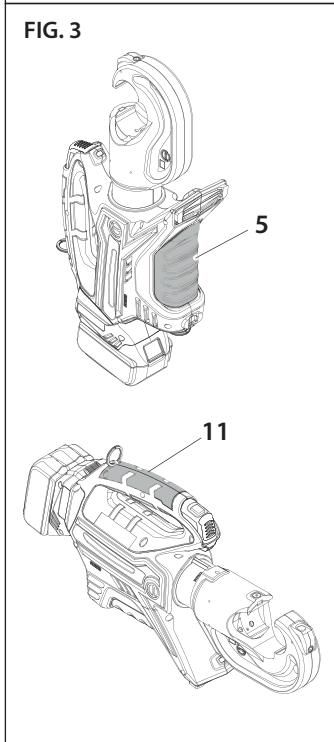
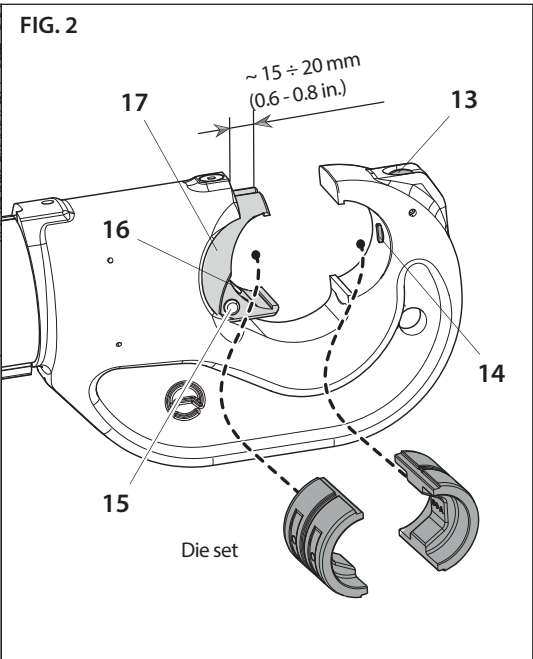
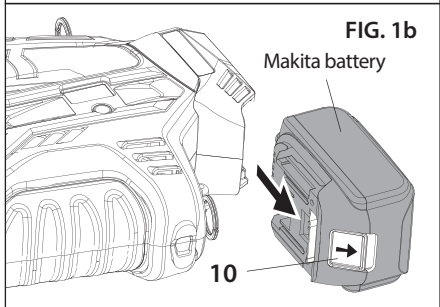
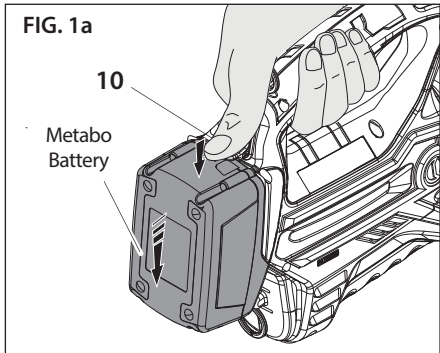
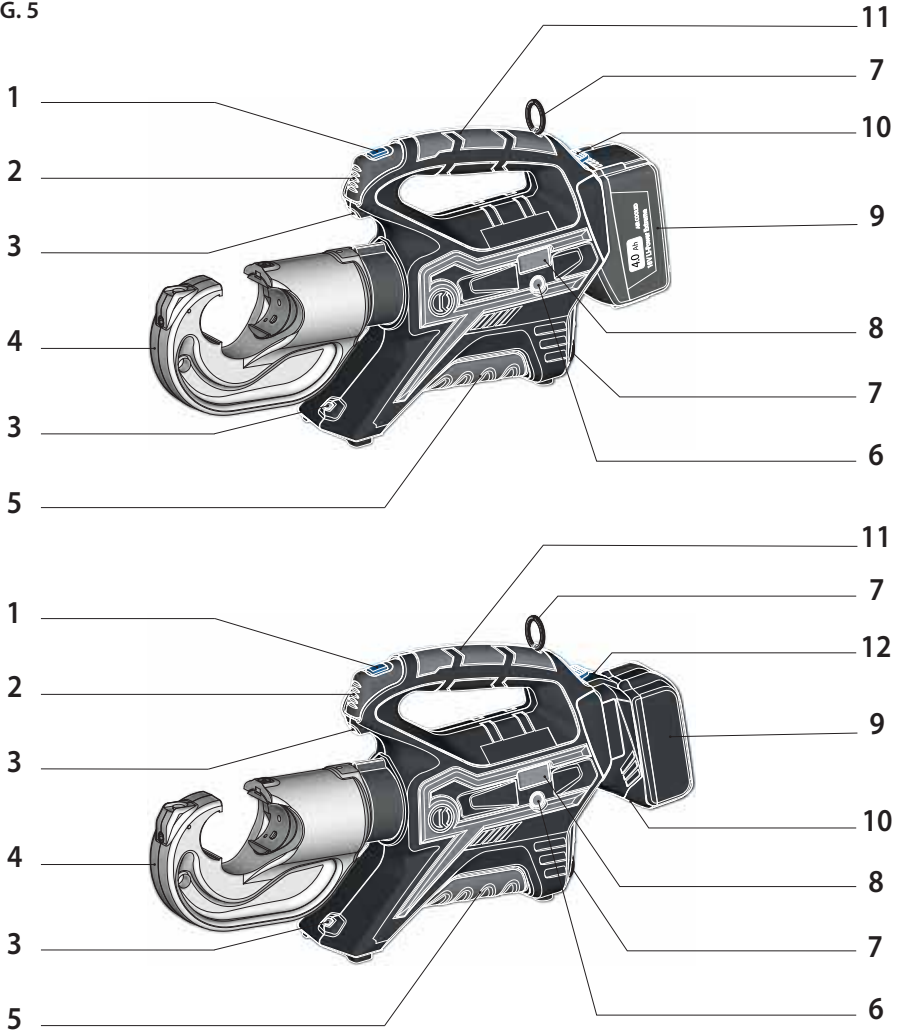







FIG. 5



1	OPERATING BUTTON	7	RING FOR SHOULDER STRAP
2	PRESSURE RELEASE BUTTON	8	DISPLAY
3	LED WORKLIGHT	9	BATTERY
4	C-HEAD	10	BATTERY RELEASE
5	HANDLE	11	HANDLE
6	TOUCH BUTTON FOR MENU SELECTION	12	BATTERY ADAPTER

# WARNING SYMBOLS

 <p>Before using the tool, carefully read the instructions contained in this manual. <b>SAVE THESE INSTRUCTIONS:</b> this manual contains important safety and operating instructions for the tool.</p>	 <p>When operating the tool, keep hands away from the danger zone.</p>	  <p>Do not operate when dies are not in place.</p>	 <p>User information (Directives 2011/65/UE and 2012/19/UE), see page 13.</p>
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## Use and Care of rechargeable batteries

Recharge the supplied battery using the specific manufacturer's charger only.

A charger intended for a specific type of battery may become a fire hazard if used with other types of battery.

Use the tool with the specific intended battery pack only. The use of any other type of battery may lead to a risk of injury or fire.

When the battery is not in use, store it away from other metal objects, such as paperclips, coins, keys, nails, screws or other small metal objects that can create a connection between two terminals.

Keep batteries out of reach of children.

Short-circuiting the battery terminals can cause burns or fire.

If in very poor condition, a battery can leak liquid. Avoid contact with the eyes.

In the case of accidental contact, rinse immediately under running water.

If the liquid comes into contact with the eyes, seek medical assistance immediately. Battery liquid can cause irritation or burns.



Keep batteries dry!  
Keep batteries away from fire!  
Never throw batteries into fire or water.



Always recycle batteries after use.



Never dispose batteries with household waste. They must be deposited at the dedicated collection points for disposal.

### Transporting Li-Ion batteries

Lithium ion rechargeable batteries are subject to the legal requirements on hazardous goods. In the event of road transport by the user, no further precautions are necessary.

In the event of third-party transport (e.g. transported by airplane or courier), transportation must comply with the special requirements concerning packaging and labelling. We recommend that you consult an expert.

Rechargeable batteries can only be transported if undamaged.

The packaging must prevent the batteries from moving around and exposed contacts must be covered with adhesive tape.

# 1. GENERAL CHARACTERISTICS

		B1300L-CA	B1300LN-CA
Application range		suitable for installing electrical compression connectors on conductors up to 400 mm <sup>2</sup> (800 MCM)	
Rated crimping force	kN (US sh. ton)	132 (14.84)	
Minimum crimping force	kN (US sh. ton)	125,2 (14.07)	
Minimum operating pressure	bar (psi)	692 (10037)	
Dimensions (Fig. 7 page 14)	mm (inches)	471 x 239 x 102.5 (18.5 x 9.4 x 4)	490 x 239 x 102.5 (19.3 x 9.4 x 4)
Weight with battery	kg (lbs)	8 (17.6)	8,1 (17.8)
Motor	V DC	18	
Operating temperature	°C (°F)	-15 to +50 (+5 to +122)	
Recommended oil		AGIP ARNICA 32 or equivalents.	
Operating speed		twin speed operation and automatic switching from a rapid advancing speed of the ram to a slower, more powerful crimping speed	
Safety		maximum pressure valve	
Rechargeable battery	type	METABO CB1840L	MAKITA BL1840B
	V / Ah (Wh)	18 / 4.0 (72)	18 / 4.0 (72)
Weight	kg (lbs)	0,6 (1.3)	0,6 (1.3)
Acoustic noise <sup>(1)</sup>	dB	L <sub>pA</sub> 66,9 (A)	L <sub>pCPeak</sub> 86,9 (C) L <sub>WA</sub> 74,9 (A)
Vibrations <sup>(2)</sup>	m/s <sup>2</sup>	0,398	
Battery charger	type	METABO ASC30-36	MAKITA DC18RC
	Input	V	115 / 60

<sup>(1)</sup> Directive 2006/42/EC, annexe 1, point 1.7.4.2 letter u

L<sub>pA</sub> = weighted continuous acoustic pressure level equivalent.

L<sub>pCPeak</sub> = maximum value of the weighted acoustic displacement pressure at the work place.

L<sub>WA</sub> = acoustic power level emitted by the machine.

<sup>(2)</sup> Directive 2006/42/EC, annexe 1, point 2.2.1.1

Weighted root mean square in frequency of the acceleration the upper limbs are exposed to for each biodynamic reference axis. Tests carried out in compliance with the indications contained in EN ISO 5349-1/2 Standard and under operating conditions much more severe than those normally found.

## WARNING



*Do not use the tool for purposes other than those intended by Cembre.*

*The operator should concentrate on the work being performed and be careful to maintain a balanced working position.*



*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 energised 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 crimping operations; for instance, having exhausted a fully charged battery in one session, delay battery replacement for a few minutes.*



*Protect the tool from rain and moisture. Water will damage the tool and battery. Electro-hydraulic tools should not be operated in pouring rain.*

## 2. INSTRUCTIONS FOR USE



**IMPORTANT:** *Never pressurise the tool without inserting the dies, this could cause damage to the head and the ram.*

The part reference includes the following:

- Hydraulic crimping tool (B1300LN-CA is fitted with adapter to use Makita battery).
- Li-Ion rechargeable battery (2 pcs) (model depends on the tool version).
- ▶ Battery charger (model depends on the tool version).
- ▶ Shoulder strap.
- ▶ Plastic carrying case.
- ▶ USB cable (Ref. to § 5).

### 2.1) Preparation

The tool can be easily carried using either the main handle (11) or the shoulder strap attached to the two rings (7) (Ref. to Fig. 5).

The main operating positions are: horizontal standing on its feet and vertical standing on its battery. In addition to the main handle (11) the lower handle (5) allows a safer and more balanced grip when using two hands to hold the tool (Ref. to Fig. 3).



*Before starting any work, check the battery charge (Ref. to § 2.8) and recharge if necessary. Refer to the manufacturer's instructions for the correct use of battery and battery charger.*

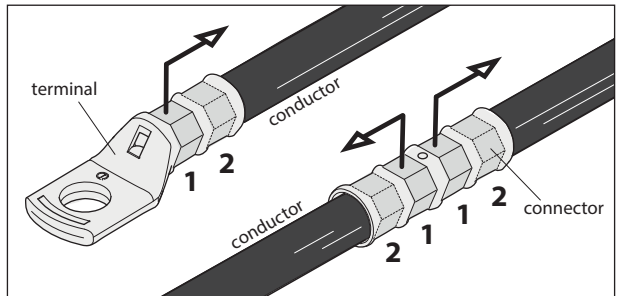
- ▶ To replace the battery:  
**B1300L-CA:** grip the tool as illustrated in Fig 1a, press the release button (10) and push the battery downward unlocking it.  
**B1300LN-CA:** position the tool as illustrated in Fig 1b, press the release button (10) and pull the battery unlocking it.  
 Insert a charged battery from the bottom by sliding it into the guides until it locks.
- ▶ The display shows the operational parameters of the tool; to customise them proceed as described in § 2.7.
- ▶ Select the appropriate die set for the connector.



**When introducing or changing dies, the battery must first be removed from the tool.**

- ▶ Operate the tool to advance the ram (17) 15-20 mm (0.6 - 0.8 in.) so to easily press release pin (15) (Ref. to Fig 2) then remove the battery.
- ▶ Keep release pin (15) depressed and insert one die into the seat on the ram until it is locked by retaining pin (16).
- ▶ Keep release pin (13) depressed and insert one die into the upper seat of the tool head until it is locked by retaining pin (14) then insert the battery.
- ▶ Insert the conductor into the connector (Ref. to Fig. 4).
- ▶ Position the connector between the dies and ensure the correct location of the crimp (Ref. to Fig. 4).

**NOTE:** when more compression is required, proceed according to the sequence and direction indicated in the figure, uniformly spacing the compressions.

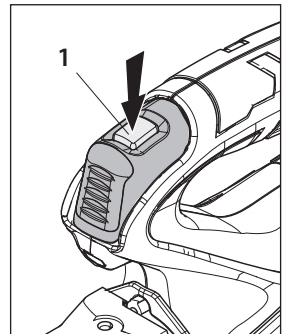


## 2.2) Die advancement

- ▶ Press operating button (1) (Ref. to Fig.5) to activate the motor-pump and advance the lower die.
- ▶ To halt the advancement, release operating button and the motor will cut out.



**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.**



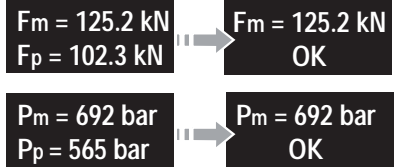
## 2.3) Compression

- ▶ By keeping operating button (1) pressed, the motor continues to operate: the ram will gradually move forward until the two dies touch.
- ▶ The motor will stop automatically when the set pressure has been reached.



**To perform proper compression, press and hold the operating button (1) until the motor stops automatically.**

**NOTE:** To display the momentary force or pressure during the work cycle, select the appropriate display from the menu (Ref. to § 4). When the operating button is released before the motor stops automatically, the display will show the peak force ( $F_p$ ) or the peak pressure ( $P_p$ ) reached at that instant.



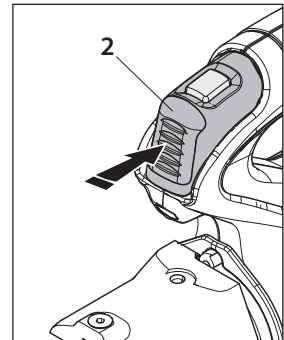
To complete the work, press the operating button again until the motor stops automatically; the display will show the maximum force or pressure reached followed by "OK" to confirm correct operation.

**i** *The display "ERROR", combined with a beep and the LEDs flashing, indicates an incorrect crimping procedure caused by the work cycle being interrupted before the control parameters (force/pressure) of the tool are reached. This error appears when the pressure release button has been perated and the tool has already reached a pressure > 100 bar. In this case, repeat the compression by pressing and holding the operating button until the motor stops automatically.*



## 2.4) Release of dies

- ▶ By operating the pressure release button (2), the ram will retract and open the dies.
- ▶ To take the dies off their guide, sliding them pushing the release pins (13 and 15) (Ref. to Fig. 2).



## 2.5) LED Worklights

Whilst the tool is in operation, the compression area is illuminated by two high luminosity LED Worklights that switch off automatically at the end of the cycle.

**i** *The LED Worklights can be disabled by following the procedure described in § 4.2.*

## 2.6) Head rotation

For ease of operation, the tool head can rotate through 180°, allowing the operator to work in the most comfortable position.

**!** *Do not attempt to rotate the head when the hydraulic circuit is pressurised.*

## 2.7) Capacitive touch button for menu selection

This button is located under the display and allows selection of various screens (Ref. to § 4); it only works when the display is on. Wearing gloves or using other objects may inhibit the operation of the button, therefore use a bare finger to apply only a light touch.



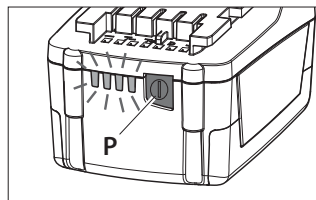




*Do not apply pressure to or stab at the touch button, a light touch using a bare finger is sufficient. The command pulse is sent when the finger releases the button.*

## 2.8) 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.
- ▶ With the battery inserted into the tool, the remaining battery life can also be checked on the display, via touch button selection (Ref. to § 4).



max.

min.



*The screen shown alongside indicates that the battery voltage has dropped below a minimum safety threshold; under these conditions the tool will not start, and it is necessary to recharge or replace the battery. The approximate time to fully recharge a battery is about 80 minutes.*



*After each working cycle, and after the extraction of the battery from the tool, an integrated battery cut-off device will operate after 70 s approx. Then the LED nearest to button (P) will flash 5 times each 14 s approx. The battery will be reactivated when it is reintroduced into the tool and the operating button is pressed.*

## 2.9) Using the battery charger

Carefully follow the instructions in the battery charger user manual.

## 3. MAINTENANCE

The tool is robust, completely sealed, and requires very little daily maintenance. Compliance with the following points, should help to maintain its optimum performance:

### 3.1) 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 pivots and moveable parts.

Do not use Hydrocarbons to clean the rubber parts.

### 3.2) Storage case

When not in use, the tool should be stored and transported in the plastic case, to prevent damage. The case, type VAL-P44, is suitable for storing the tool, the accessories and up to 12 die sets and pre-rounded dies.

VAL-P44: Size 680x473x151 mm (26.8x18.6x5.9 inches). Weight 3,7 kg (8.1lbs).

## 4. DISPLAY

The OLED display (8) switches on automatically when the operating or pressure release buttons are pressed, and off after 60 seconds of non-operation.

The display shows:

- ▶ The main operational parameters of the tool processed by the circuit board, such as peak pressure or force reached.
- ▶ Information on the condition of the tool, such as the charge level, the battery temperature and maintenance requirements.
- ▶ Any operational or procedural ERRORS.

Use the touch button (6) to navigate through the menu screens to manage INFORMATION AND SELECTION:



**4.1) INFORMATION SCREENS:** display a pre determined parameter which will then appear each time the tool is started and during the entire work cycle.

**F<sub>m</sub> = 125.2 kN**  
**F<sub>p</sub> = 94.5 kN**

F<sub>m</sub>: Minimum set force, expressed in kN.  
F<sub>p</sub>: Peak force reached, expressed in kN,  
(screen as factory setting).



**F<sub>m</sub> = 14.07 ton**  
**F<sub>p</sub> = 10.61 ton**

F<sub>m</sub>: Minimum set force, expressed in USA sh. tons.  
F<sub>p</sub>: Peak force reached, expressed in USA sh. tons.



**P<sub>m</sub> = 692 bar**  
**P<sub>p</sub> = 522.3 bar**

P<sub>m</sub>: Minimum set pressure, expressed in bar.  
P<sub>p</sub>: Peak pressure reached, expressed in bar.



**P<sub>m</sub> = 10037 psi**  
**P<sub>p</sub> = 7575 psi**

P<sub>m</sub>: Minimum set pressure, expressed in psi.  
P<sub>p</sub>: Peak pressure reached, expressed in in psi.



Battery charge level.



No. of cycles performed.  
No. of cycles before scheduled recommended maintenance.



**Cembre** logo, tool model.  
Tool serial no.



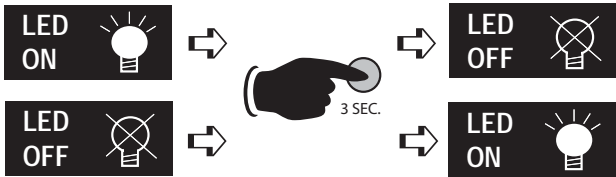
To make a selected screen operational and appear at each start-up of the tool, operate the touch button for at least 3 seconds; a continuous beep will confirm the setting.



*The capacitive menu selection button may not work if touched using objects or when wearing gloves, therefore always operate it using a bare finger.*

**4.2) SELECTION SCREENS:** control parameters that cannot be set as automatic upon start-up of the tool, can be changed by operating the touch button:

**Enabling/disabling the LED Worklights** (factory setting LED ON)



When the screen is displayed, touch the button for at least 3 seconds to deactivate for reactivate operation of the LED Worklights during tool use; a continuous beep will confirm the setting.

**Return to original factory settings / firmware version**

When the "RESET" screen is displayed, return the tool to its factory setting by operating the touch button for at least 3 seconds; a beep will confirm the setting.



The RESET screen also shows the firmware version of the circuit board.

**4.3) WARNINGS:** these appear during operation and notify the operator of the status of the tool:



**LOW BATTERY:** replace the battery.

**NOTE:** when the battery Vage falls below a minimum safety threshold, the tool will not start; although it is still possible to end the work cycle in progress.



**BATTERY TEMPERATURE HIGH:** remove the battery and wait until it cools down.









**NO. OF CYCLES TO MAINTENANCE REACHED:**

the tool continues to work however, it is recommended that it is sent to **Cembre** for a complete overhaul (see § 6).

**NOTE:** this message, together with a beep, will reappear when the tool has been idle for 30 seconds.

**4.4) ERRORS:** these appear during operation, combined with a beep and flashing LED Worklights, to notify the operator of procedural or operational errors.

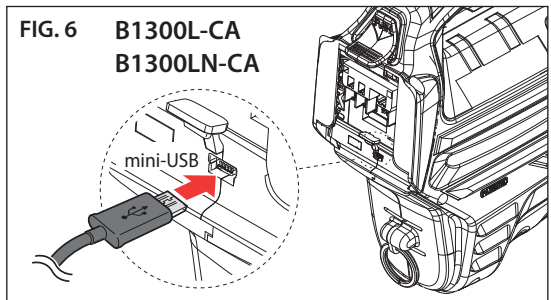
Message	Error description	Solution
	The pressure release button (2) was pressed before the control parameters were reached (Force/Pressure).	Repeat the work cycle and wait for the motor to stop automatically.
	Abnormal power consumption of the motor for more than 3 seconds. The tool stops.	Wait for the display to turn off (60 sec.) or remove and re-insert the battery, then re-start the tool. If the error occurs frequently, contact <b>Cembre</b> .
	Output voltage of the pressure transmitter is out of the pre-set range.	Repeat the work cycle; if the error occurs frequently, contact <b>Cembre</b> .
	Failure to reach the set pressure within 30 seconds of continuous operation of the machine.	Repeat the work cycle; if the error occurs frequently, contact <b>Cembre</b> .
	Overcharging of the battery with protection tripping. The tool stops.	Wait for the display to turn off (60 sec.) or remove and re-insert the battery, then re-start the tool. If the error occurs frequently, contact <b>Cembre</b> .

 *Errors are displayed for about 30 seconds before being reset, but will display repeatedly in the event of permanent anomalies.*

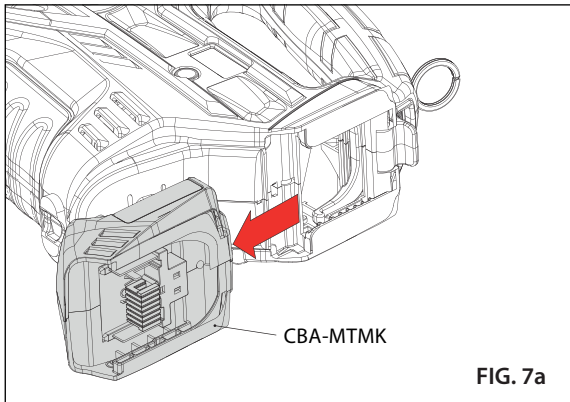
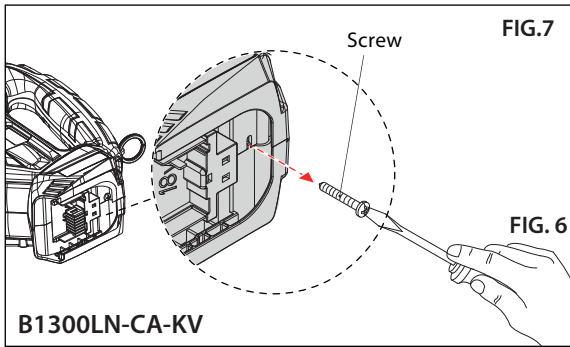
## 5. CONNECTION TO COMPUTER

The memory card integrated in the tool records operating data from 200.000 cycles for transfer via the USB cable supplied.

To view and manage this data, go to [www.cembre.com](http://www.cembre.com) and register in the dedicated area, then download the free **Cembre** software **CEM\_SWBT01**. Keeping the Firmware of the tool updated, via free of charge download from here, will optimise the tool's performance.



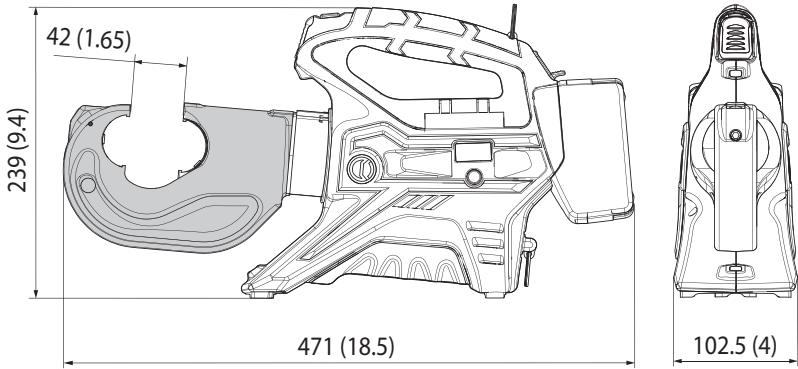
**B1300LN-CA:** To access the mini-USB port (Ref. to fig. 6) and connect the USB cable to the computer it is necessary to remove CBA-MTMK battery adapter (12). Remove the screws (Ref. to fig. 7 and 7a) and slide the adapter out.



## 6. RETURN TO **Cembre** FOR OVERHAUL

In the case of a breakdown contact our Area 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 fill in and attach the form available in the "ASSISTANCE" section of the **Cembre** website.

B1300L-CA



mm (inch)

B1300LN-CA

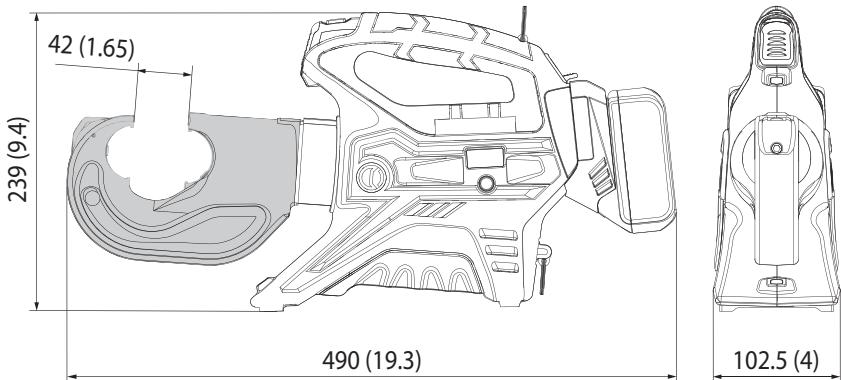


FIG. 7

mm (inch)



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