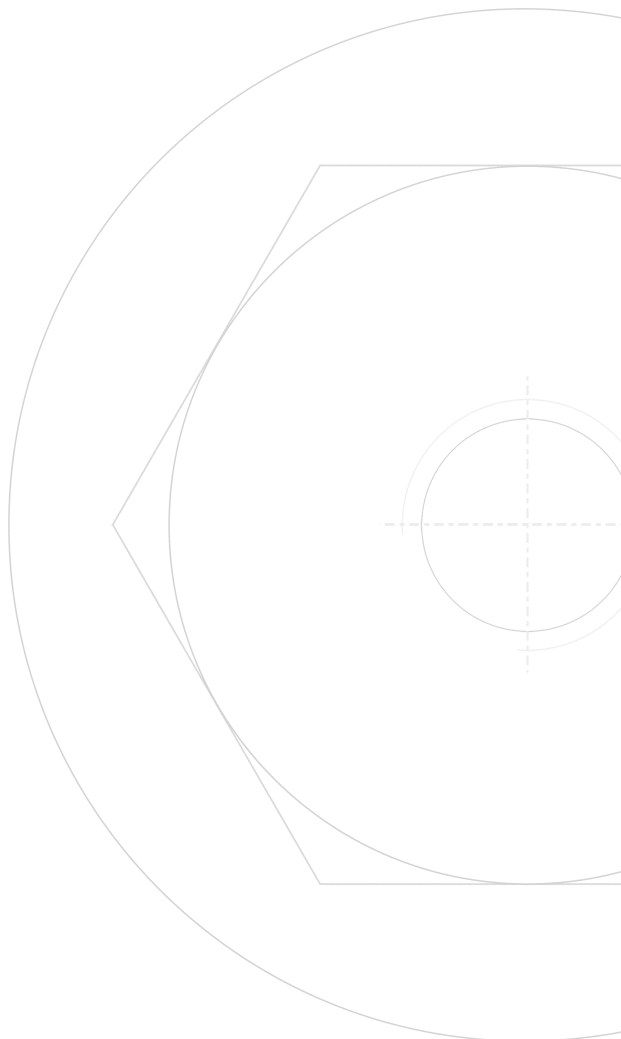


# OPERATING AND MAINTENANCE MANUAL



## TYPHOON PLUS WITH TORQUE INDICATOR



*Thanks for choosing a PAOLI product.*

*Standing behind your impact wrench are  
the capacity and the diligence of a company team  
which works everyday to be able to always offer you  
powerful, reliable and long lasting products.*

*From the Pit Lanes to any business,  
your success is our goal!*





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# TYPHOON PLUS WITH TORQUE INDICATOR

## **OPERATING AND MAINTENANCE MANUAL**

Safe operation of this tool is possible only when the operating instructions are read completely and the instructions contained therein are strictly observed.

These instructions are addressed to trained professionals only.

*THESE INSTRUCTIONS MUST ALWAYS BE KEPT WITH THE IMPACT WRENCH. STORE THEM IN A SAFE PLACE.*

## **ATTACHMENTS**

*Spare Parts*

4

22

## TECHNICAL DATA

### DESCRIPTION

Cordless impact wrench designed for motorsport application.

### INTENDED USE

Cordless impact wrench for threaded fasteners in the pit stop service.

### BEST PRACTICE

The torque indicator system is application sensitive: check with your dealer you have the correct settings installed.

## GENERAL POWER TOOL SAFETY WARNINGS

**Read all safety warnings and (all) instructions.** Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury. **Save all warnings and instructions for future reference!** The term "power tool" in the warnings refers to mains-operated (corded) power tool or battery-operated (cordless) power tool.

### 1. WORK AREA SAFETY

- ▷ **Keep work area clean and well lit.** Cluttered or dark areas invite accidents. Direct the tool or accessories away from people or animals.
- ▷ **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- ▷ **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

### 2. ELECTRICAL SAFETY

- ▷ **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.

- ▷ **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- ▷ **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- ▷ **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- ▷ **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- ▷ **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.
- ▷ **Hold power tool by insulated gripping surfaces, when performing an operation where the fastener may contact hidden wiring or its own cord.** Fasteners contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.

### 3. PERSONAL SAFETY

- ▷ **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- ▷ **Use personal protective equipment. Always wear eye and hearing protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- ▷ **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.
- ▷ **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- ▷ **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- ▷ **Dress properly. Do not wear loose clothing or jewelers. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewelers or long hair can be caught in moving parts.
- ▷ **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust related hazards.

### 4. POWER TOOL USE AND CARE

- ▷ **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- ▷ **Do not use the power tool if the switch does not turn on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- ▷ **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- ▷ **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- ▷ **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- ▷ **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- ▷ **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.

## 5. BATTERY TOOL USE AND CARE

- ▷ **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- ▷ **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
- ▷ **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.

- ▷ **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery may cause irritation or burns.

## 6. SERVICE

- ▷ **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

# PRODUCT SAFETY INSTRUCTIONS

1. To ensure the designed operational integrity of power tools, do not remove installed cover or screws.
2. Use your tool at lower input than specified on the nameplate, otherwise, the finish may be spoiled and working efficiency reduced by motor overload.
3. Do not wipe plastic parts with solvent. Solvents such as gasoline, thinner, benzene, carbon tetrachloride, alcohol, ammonia and oil containing chloric annex may damage and crack plastic parts. Do not wipe them with such solvent. Wipe plastic parts with a soft cloth lightly dampened with soap water.
4. Use clamps or other practical way to secure and support the work piece to a stable platform. Holding the work by hand or against your body is unstable and may lead to a loss of control.
5. Use only accessories that are recommended by the manufacturer for your model. Accessories that may be suitable for one tool may create a risk of injury when used on another tool.

# IMPORTANT SAFETY INSTRUCTIONS FOR CHARGER & BATTERY PACK

1. Caution: To reduce risk of injury, charge only specific type rechargeable battery packs. Other types of battery packs may burst causing personal injury and damages.

2. Before using the charger, read all instructions and cautionary markings on battery packs and chargers.
3. Do not expose the charger to rain or snow.
4. To reduce the risk of damage to electric plug and cord, pull by plug rather than cord when disconnecting the charger.
5. Use of an attachment not recommended or sold by the charger manufacture may result in a risk of fire, electric shock, or injury to persons.
6. Make sure the cord is located so that it will not be stepped on, tripped on, tripped over, or otherwise subjected to damage or stress.
7. Do not operate the charger with damaged cord or plug. Replace them immediately.
8. Do not operate the charger if it has received a sharp blow, been dropped, or otherwise damage in any way, take it to a qualified center.
9. To reduce the risk of electric shock, unplug the charger from the mains before attempting any maintenance or cleaning. Turning off the controls will not reduce this risk.
10. Do not disassemble the charger or the battery pack, take it to a qualified service center if repair is required. Incorrect reassembling may result in a risk of electric shock or fire.

## ADDITIONAL SAFETY RULES FOR CHARGER & BATTERY PACK

1. Do not charge the battery pack when the temperature is below 0°C (32°F) or above 40 °C (104°F).
2. Do not attempt to use a set-up transformer, an engine generator or DC power receptacle.
3. Do not allow anything to cover or clog the charger vents.
4. Always cover the battery pack terminals with the battery pack cover when the battery pack: is not used.
5. Do not short the battery pack.
6. Do not touch the terminals with any conductive material.
7. Avoid storing the battery pack in a container with other metal objects such as nails, coins, etc.
8. Do not expose battery pack to water or rain, A battery pack short can use large current flow, overheating and causing possible burns and even a breakdown.
9. Do not store the machine and battery pack in locations where the temperature may reach or exceed 50°C (122°F)
10. Do not incinerate the battery pack even if it is severely damaged or completely worn out. The battery pack can explode in a fire.
11. Be careful not to drop, shake or strike the battery pack.
12. Do not charge inside a box or container of any kind. The battery pack must be placed in a well ventilated area during charging.
13. Do not leave unused batteries for extended period of time. Recharge the battery every 3~6 months and bring Li-Ion battery to 40~80% charge level before storage.
14. Li-Ion batteries are sensitive to high temperature and should be kept in a cool, dry and out of direct light exposure location.




The ideal temperature for operation and storage is below 25°C (77° F).

15. For extension of the battery lifetime, the lithium-ion battery has an inbuilt protection function to stop the output in the cases described below. If the protection is triggered, the motor may not turn even if you are depressing the main switch. This is not a case of malfunction; the protection will be restored when the machine is safe to operate.
  - The motor stops when the state of charge of the battery is too low.
  - If the tool is overloaded, the motor

may stop. In this case, release the switch of the tool and eliminate the causes of overloading. After that, the motor will restart.

- If the battery is overheated because of overload work, the battery power may stop. In this case stop using the battery and let it cool down. After that, you can use it again.
16. This product is designed with low voltage protection, which prevents the tool from over discharging and prolongs battery's lifespan.

## **SPECIFIC SAFETY RULES AND/OR SYMBOLS**

|   |  |   |                |
|---|--|---|----------------|
|  | Recycle                                  |  | Class II Tool  |
|  | Do Not Throw in Garbage                  | V   | Volts          |
| a.c.  | Alternating Current                      | Hz  | Hertz          |
| W   | Watts                                    | kg  | Kilograms      |
| mm  | Millimeters                              | d.c.  | Direct Current |
| kg-cm   | Kilograms - Centimeters                  | ft-lb   | Foot- Pound    |
| RPM   | Revolutions or Reciprocations Per Minute |   |                |



## SPECIFICATIONS

|  |   |   |
|--|---|---|
| <b>Drive Shaft</b>                     | 1"  | Spline  |
| <b>Voltage</b>                         | 20 V d.c.                                       | 20 V d.c.                                       |
| <b>No-Load Speed(/min)</b>             | 0~1650 r.p.m. (/min)                            | 0~1650 r.p.m. (/min)                            |
| <b>Impacts Per Minute</b>              | 2100  | 2100  |
| <b>Max Torque</b>                      | 1600 Nm / 1180 ft-lbs /<br>16315 Kg - cm        | 1600 Nm / 1180 ft-lbs /<br>16315 Kg - cm        |
| <b>Tool Weight</b>                     | 3,5 kg (7.7 lbs)                                | 3,5 kg (7.7 lbs)                                |
| <b>Battery Weight</b>                  | 0,65 kg   | 0,65 kg   |
| <b>Ultra Power Battery</b>             | 20V - 6,0 Ah                                    | 20V - 6,0 Ah                                    |
| <b>Vibration Level (EN 60745)</b>      | 5,58 m/s <sup>2</sup> (K=1,5 m/s <sup>2</sup> ) | 5,58 m/s <sup>2</sup> (K=1,5 m/s <sup>2</sup> ) |
| <b>Sound Pressure Level (EN 60745)</b> | 94.9 dB(A) (K <sub>pA</sub> =3 dB)              | 94.9 dB(A) (K <sub>pA</sub> =3 dB)              |
| <b>Sound Pressure Level (EN 60745)</b> | 105.9 dB(A) (K <sub>WA</sub> =3 dB)             | 105.9 dB(A) (K <sub>WA</sub> =3 dB)             |

## VIEW OF THE MAJOR COMPONENTS



Fig. 1

|   |                                   |
|---|-----------------------------------|
| 1 | Drive Shaft                       |
| 2 | Main Switch                       |
| 3 | Battery Release Lever             |
| 4 | Battery Pack                      |
| 5 | Fast Reverse System               |
| 6 | Battery SOC Indicator             |
| 7 | Torque Indicator System           |
| 8 | Torque Indicator Auxiliary Switch |
| 9 | Anti Tampering Seal               |

## OPERATING INSTRUCTION

### INSTALLING OR REMOVING BATTERY PACK FROM POWER TOOL

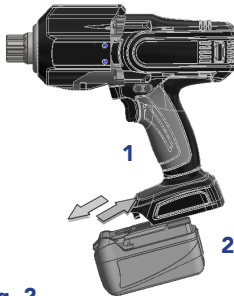


Fig. 2

1. Always switch off the machine before insertion or removal of the battery pack.
2. To remove the battery pack, push the release lever on the battery pack and pull the tool unit from the battery pack in the direction indicated by the arrows.
3. To insert the battery pack, align the tool unit slides with the battery pack sliding grooves and push the tool unit into place. The tool unit can be slide into battery pack in two directions.
4. Do not force the battery pack in sliding into tool unit. If the battery pack does not slide in easily, it is not being inserted correctly. Remove and repeat the operation.

### INSTALLING OR REMOVING BATTERY PACK FROM CHARGER

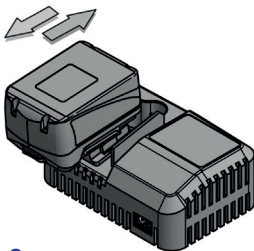
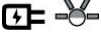

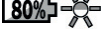

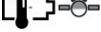



Fig. 3





1. Connect the power lead to the charger before charging.
2. Plug the fast charger into the power source.
3. Slide the battery pack into the charger as indicated by the arrow printed on the charger. (View Fig. 3)
4. Push the battery pack into place and make sure the red light on the charger is "ON". The battery pack is now starting the charging cycle.
5. After finishing the charging cycle, the light will turn green. The battery pack is now ready for use.
6. New battery packs are not charged. Charge fully before use.
7. If you try to charge a battery pack from a just-operated machine, sometimes the charging light will not come on. If this occurs, let the battery pack to cool down for a while then re-insert it and try to charge it again.
8. When you charge a new battery pack or a battery pack which has not been used for a long period, it may not accept a full charge. This is a normal condition and does not indicate a problem. You can recharge the battery pack fully after discharging it completely a couple of times.
9. Unplug the charger from the power source after completing the charge.
10. Please remove the battery from the unplugged charger during storage.

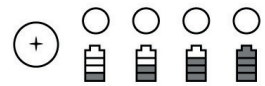
**THE LED LIGHT ON THE CHARGER**

|   |   |
|---|---|
|  | Power On (Green light flashes slowly)                                   |
|  | Battery Low (Red light stays illuminated)                               |
|  | Battery charged 80% (Green light flashes rapidly)                       |
|  | Battery charged 100% (Green light stays illuminated)                    |
|  | Battery Pack temperature too hot or too cold (Red light flashes slowly) |
|  | Battery Pack malfunction (Red and Green lights stay illuminated)        |

**BATTERY PACK LED INDICATION FUNCTION**

The Battery Pack has 4-step green LEDs for indicating the state of charge. The SOC indicator will activate when the the "SW" button is momentarily pressed.

| SOC LED Indication     |   | SOC Status |
|------------------------|---|------------|
| LED 1 (green)          |  | 0% - 25%   |
| LED 1, 2 (green)       |  | 26% - 50%  |
| LED 1, 2, 3 (green)    |  | 51% - 75%  |
| LED 1, 2, 3, 4 (green) |  | 76% - 100% |



**Fig. 4**

**⚠ WARNING**

1. The charger must be plugged to a 100-240V a.c outlet only.
2. If the battery pack is too hot or too cold, the charger will not charge the battery pack and the red Indicator light will be "blinking". When the battery pack temperature returns to between 0°C (32°F) and 50°C (122°F), the charger will automatically start charging.
3. If both red and green indicator lights are "ON" the battery pack either does not comply or is defective. Please contact your retailer.
4. Do not charge the battery pack in the rain, snow or high temperature environment.
5. Do not charge battery pack when environment temperature is below 0°C (32°F) or above 40°C (104°F).
6. Before charging cold battery packs (below 0°C) in a warmer environment, keep the battery pack in the room for one hour to warm up before starting the procedure.
7. Unplug the charger after use.
8. The charger should be allowed to cool down for at least one hour after more than 3 consequent charges.
9. Do not use a generator for charging the battery pack.



Fig. 5

### CAUTION

1. Please pay attention to your wheel gun version:
  - The Fast Left Hand (LH) version loosens nuts tightened clockwise faster.
  - The Fast Right Hand (RH) version loosens nuts tightened anticlockwise faster.
2. To start the machine, simply pull the main switch. The machine speed increases by increasing the pressure on the main switch. Release the main switch to stop.
3. For reversing the direction of rotation, (*Figure Fig.5*) use the fast reverse system (FRS) rod on the drive unit.
4. Always check the direction of rotation before operation.
5. Operate the FRS rod only after the machine come to a complete stop. Changing the direction of rotation before the machine stops may damage the machine.
  - Hold the machine firmly and place the socket onto the nut. Apply forward pressure to the machine to the extent that the socket will not slip off the nut, and turn the machine on to start operation. Use the proper socket for the nut that you wish to drive.
  - Hold the machine pointed straight at the nut. If you tighten the nut for a time longer than it needs, the nut or the socket may be overstressed, stripped, damaged, etc. Before starting your job, always perform a test operation to determine the proper tightening time for your screw. When tightening a standard nut in a steel plate, the proper tightening torque can be obtained in an extremely short time.
  - Turn the machine off as soon as the impact sound is heard. When tightening M6 nut or smaller, carefully adjust pressure on the main switch so that the nut is not damaged.
6. The tightening torque is affected by a wide variety of factors including those in the list below. For higher accuracy, after tightening, always check the torque with a torque wrench.
  - When the battery pack has low charge, the voltage will drop and the tightening torque will be reduced.
  - Driver bit or socket bit: failure to use the correct size driver bit or socket bit will cause a reduction in the tightening torque.
  - For driving a bolt: even though the torque coefficient and the class of bolt are the same, the proper tightening torque will differ according to the diameter of the bolt.
7. Even if the diameter of the bolt are the same, the proper tightening torque will differ according to the torque coefficient, the class of the bolt and the bolt length.
8. The holding position, the material, the direction of tightening are all parameters which affect the tightening torque.

## INSPECTING AND MAINTAINING THE WHEEL GUN



Always be sure that the machine is switched off and the battery pack is removed before installing or removing the socket.

**ATTENTION:** The operations of maintenance and repair must be completed by specialised staff: if the anti tampering seal on the left side is removed the warranty is void.

### INSTALLING OR REMOVING HAMMER KIT MECHANISM COVER

**STEP 1:** place the wheelgun, without socket *Pag.17* and *Pag.18*, in a stable position.

**STEP 2:** remove the four screws clamping the cover to the main body (*item 1 in figure Fig. 6*), and the screw clamping the connector retainer (*2 in figure Fig. 6*).

**STEP 3:** lift and slide the connector retainer (*in figure Fig. 7*).

**STEP 4:** lift the cover (with the Torque Indicator System attached) to expose the components of the hammer kit mechanism.

**STEP 5:** Clean and check for signs of wear or damage on the following components:

- Output shaft (especially dogs edges): *4 in figure Fig. 13*
- Steel spacer: *1 in figure Fig. 13*
- Rubber spacer: *2 in figure Fig. 13*
- Thrust needle bearing: *3 in figure Fig. 13*
- Flywheel (especially dogs edges): *5 in Fig. 13*

**STEP 6:** after substituting any potentially damaged part, apply grease and reassemble in the correct order (*View figure Fig. 13*).

**STEP 7:** Check the correct location of the connector and re install the retainer with its screw.

**STEP 8:** reinstall the four main screws to the correct torque value (*View figure Fig. 6*)

\* It is recommended to carry out this operation every 200 cycles (equivalent to two race weekends indicatively).

Fig. 6

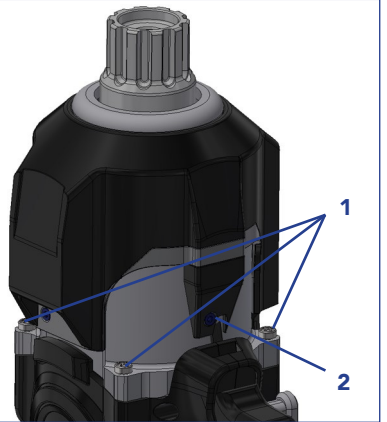
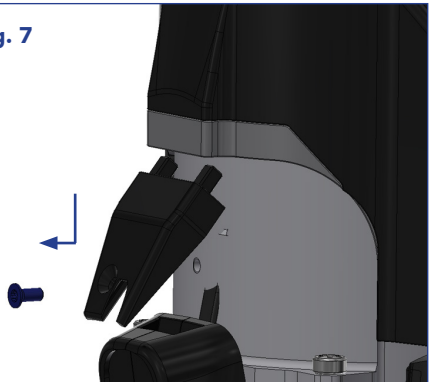


Fig. 7



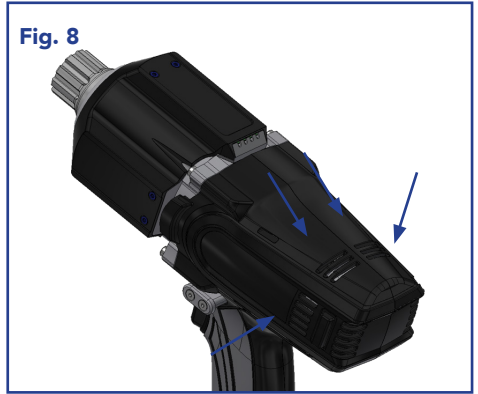
The above mentioned operations must be carried out by specialised staff.

## BRUSHED MOTOR

Clean the motor brushes area by mean of compressed air through the vents in the wheelgun case (View figure Fig. 8).

\* It is recommended to carry out this operation every 100 cycles (equivalent to one race weekend indicatively).

**Fig. 8**



### **In order to maintain the wheel gun in optimal operating conditions:**



- Follow the maintenance recommendations.
- Prevent any water or liquid ingress (rain covers are available catalogue).
- Keep the battery contacts clean.

**This product complies with EU Directive 2012/19/EC**

- ▷ The crossed bin symbol on the appliance indicates that the product at the end of its life, must be disposed of separately from domestic waste, either by taking it to a separate waste disposal site for electric and electronic appliances or by returning it to your dealer when you buy another similar appliance.
- ▷ The user is responsible for taking the appliance to a special waste disposal site at the end of its life, on penalty of the measures provided for by current legislation on waste.
- ▷ If the disused appliance is collected correctly as separate waste, it can be recycled, treated and disposed of ecologically; this avoids a negative impact on both the environment and health, and contributes towards the recycling of the product's materials.
- ▷ For further information regarding the waste disposal services available, contact your local waste disposal agency or the shop where you bought the appliance.
- ▷ The producers and importers meet their responsibilities for recycling, treatment and environmentally friendly disposal either directly or through participating in a collective system.

**Original operating instructions** - The original language of these instructions is English.



## TORQUE INDICATOR SYSTEM




- The torque indicator system is not a calibrated device; it does not substitute a torque wrench.
- Do not use the same torque indicator system on different types of vehicles: each vehicle needs its individual calibration settings.
- Turn off the Torque Indicator System after every use: the system does not have an auto switch off and it might drain the battery.

The Torque Indicator System is an independent system from the wheelgun: it can be switched on only when needed.

- Switch on the Torque Indicator System by turning the auxiliary switch on, indicated by the number "1".
- The system requires a few seconds to boot; the flash of all four green lights indicate the system is ready for use.
- If programmed to do so, a single green light indicates the direction of tightening, when the system is idling.
- The Torque Indicator System flashes the two central red LEDs when it is rotating in the loosening direction.
- During tightening, the Torque Indicator System checks that a minimum number of turns are covered by the nut in "free spin"; for this reason it is important NOT to initiate the tightening by hand or using other tools.
- Depending on the settings, a sequence of red and green lights indicates the progress of torque applied to the nut.
- The nut is considered completely locked only when all four LEDs turn green.
- The Torque Indicator System only provides

an indication to the operator; at the reach of the four green lights state, the operator should stop depressing the main switch.

- Holding the main switch depressed beyond the instant of green lights might result in damages to the thread.
- If the tightening sequence is interrupted before the reaching of the green lights, it can be resumed by depressing again the main switch.
- The tightening process can be performed over a period of 10s (in some cases 20s), after which the system times out and the count resets; in this case the tightening sequence needs to be restarted (nut loosening and re-tightening).
- The tightening count can be reset also by changing the direction of rotation (operating the FRS lever) and depressing the main switch fully.

 Always perform tightening of the nut with the main switch fully depressed: the Torque Indicator System is calibrated to operate only at full wheel gun power.



**ATTENTION:** The operations of maintenance and repair must be completed by specialised staff, if the sticker on the left side is broken the warranty is void.

### INSTALLING SQUARE DRIVE SOCKETS



Always be sure that the machine is switched off and the battery pack is removed before installing or removing the socket.

#### STEP 1

Place the wheel nut socket in the square drive of the wheel gun (view figure Fig.9). Always check that the hole of the socket corresponds to the hole in the square drive of the wheel gun.

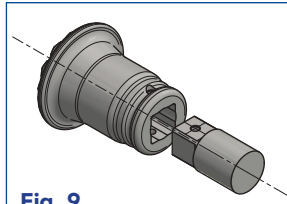


Fig. 9

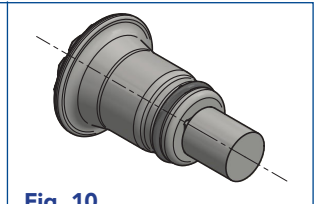


Fig. 10

#### STEP 2

Insert the locking pin (view point 3, figure Fig. 11) in the transverse hole of the wheel nut socket. Pay attention to the insertion position.

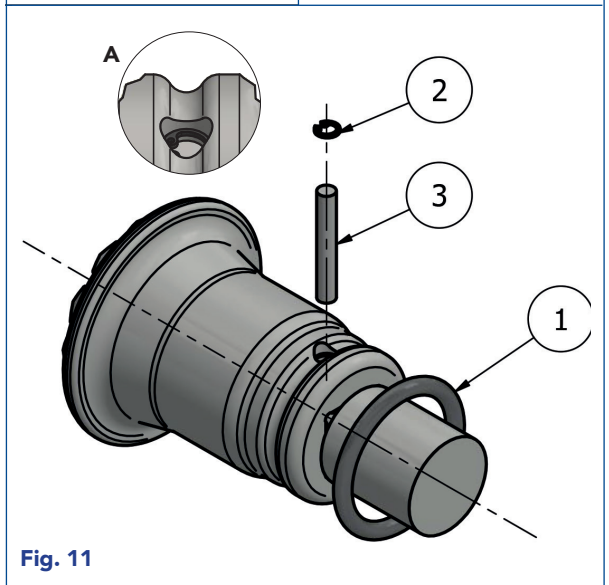


Fig. 11

#### STEP 3

By using pliers, place the internal retaining ring (view point 2, figure Fig. 11) in the groove machined in the hole where the locking pin (view point 3, figure Fig. 11) was positioned. Ensure it is fully seated it from escaping (view detail A, figure Fig. 11)

#### STEP 4

Place the retaining O-ring (view point 1, figure Fig. 11) in the housing on the collar of the wheel nut socket (view figure Fig.10).

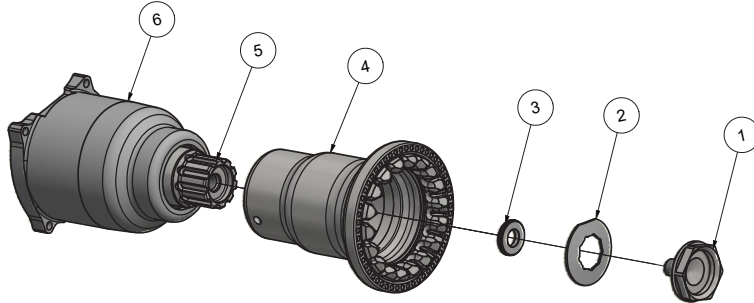


The above mentioned operations must be completed by specialised staff.

**INSTALLING SPLINE DRIVE SOCKETS**



Always be sure that the machine is switched off and the battery pack is removed before installing or removing the socket.



**Fig. 12**

Use only accessories suitable for the job (view our catalogue for accessories).

Use only Paoli spline wheel nut sockets.

Do not use chrome sockets or for manual use.

Do not use spline drive adapters (reductions or multiplies).

Always check that the retaining screw of the socket is present and secured firmly.

To install the wheel nut socket, proceed as follows (view figure Fig. 12):

**STEP 1**

Firmly hold the wheel gun handle in a vise with soft jaws.

**STEP 2**

Insert the socket (4) by coupling it with the spline part of the drive shaft (5).

**STEP 3**

Position the self-locking washer (3), with the writing outwards, in the seat of the drive shaft (5)

**STEP 4**

Place the belleville spring (2) with the "up" sign upwards, orienting the cut for the anti-rotation in the seat present in the socket (4).

**STEP 5**

Assemble the screw (1) using a 32mm hexagon socket wrench, tighten it with a torque wrench to 70-90Nm. To lock the rotation of the socket use the sector wrench cod. S.01.0300 by inserting it in the lateral holes of the socket. Apply Loctite 243 to the thread for additional safety.

**STEP 6**

In order to visually check the accidental loosening of the retaining screw (1), it is recommended to apply TORQUE SEAL paste with a brush on the side of the screw. After application, wait for the TORQUE SEAL paste to solidify.

**STEP 7**

The assembly is complete. After finishing the assembly, check that the socket (4) has no abnormal vibrations and that the socket shaft assembly (4-5) is consistent. Periodically check the screw tightening.



The above mentioned operations must be completed by specialised staff.



## EU DECLARATION OF CONFORMITY

Individual machine

We

**DINO PAOLI S.R.L. - Via G. Dorso, 5 - 42124 Reggio Nell'Emilia (Re) - Italy**

declare under our sole responsibility that the product:

Machine Type

### **TYPHOON PLUS WITH TORQUE INDICATOR**

Cordless impact wrench

### **TECHNICAL DATA**

View Specifications Section

### **SERIAL NO.**

View back cover

to which this declaration relates, is in conformity with the requirements of the Machinery Directive 2006/42/EC, EMC Directive 2014/30/EC, Low Voltage Directive 2014/35/EC, RoHS Directive 2011/65/EC.

Name and address of the person authorized to draw up the technical file

Name: **Dr. Federico Galloni**

Address: **DINO PAOLI S.R.L. - Via G. Dorso, 5 - 42124 Reggio Nell'Emilia (Re) - Italy**

Name and position of issuer:

**Commercial Director &  
Member of the Board of Directors**

**Dr. Federico Galloni**

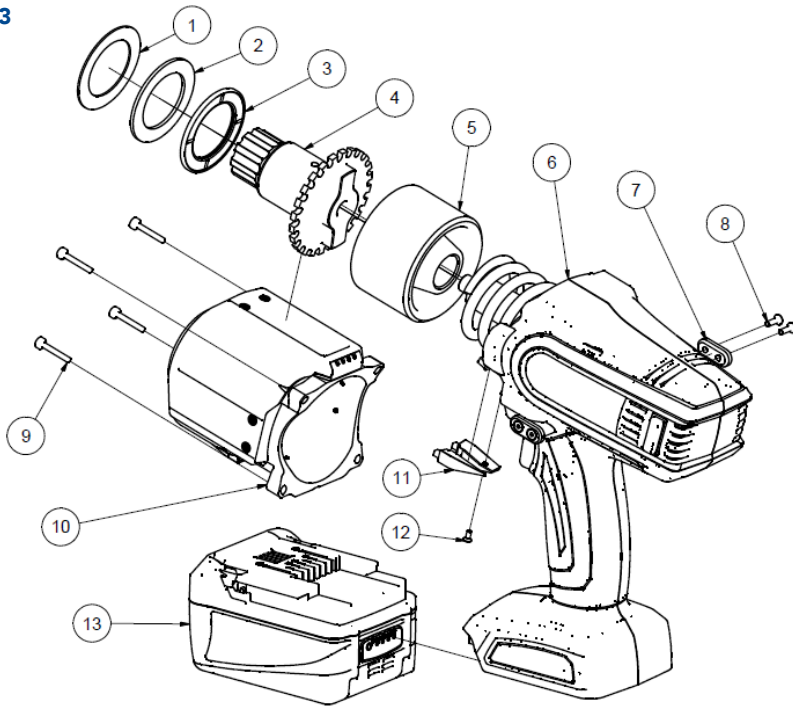
**Reggio nell'Emilia (RE) - Italy - March 1, 2021**

## TERMS AND CONDITIONS OF THE MANUFACTURER'S LIMITED WARRANTY

The terms and conditions of the warranty provided by DINO PAOLI S.r.l. are:

- A warranty period of twelve months from the date of purchase and six months for the battery, limited to demonstrable defects in materials or manufacture. The receipt must be provided as proof of the date of purchase. In the case of an impact wrench, the registration number of the impact wrench must also be provided.
- DINO PAOLI s.r.l. may not be held liable, and will not accept any claims, for damages caused by improper use that does not comply with the manufacturer's instructions.
- The warranty is not valid if the product has been used in a manner that does not comply with the manufacturer's instructions. The warranty is not valid if the product has been repaired by personnel who have not been specifically authorised by DINO PAOLI s.r.l.
- Technical interventions during the warranty period do not extend or renew said warranty period; said repairs or replacements are guaranteed for the remaining period of the original warranty.
- Complete replacement of the product is not envisaged, except for a clear defect that has been reported within eight days of receiving the product. In contrast, we will replace under warranty the components necessary to restore its correct functioning, including labour.
- Any replacement of components under warranty is at the sole discretion of DINO PAOLI s.r.l., after it has received them. The replaced components will remain the property of DINO PAOLI s.r.l.
- The product may be delivered to a centre authorised by DINO PAOLI s.r.l., which will deal with the product. A list of authorised centres is available at the e-mail address sales@paoli.net. Alternatively, the product may be sent to DINO PAOLI s.r.l., but the shipping costs will not be paid by DINO PAOLI s.r.l.
- If the anti tampering seal is removed or torn, the warranty is void.

Fig. 13



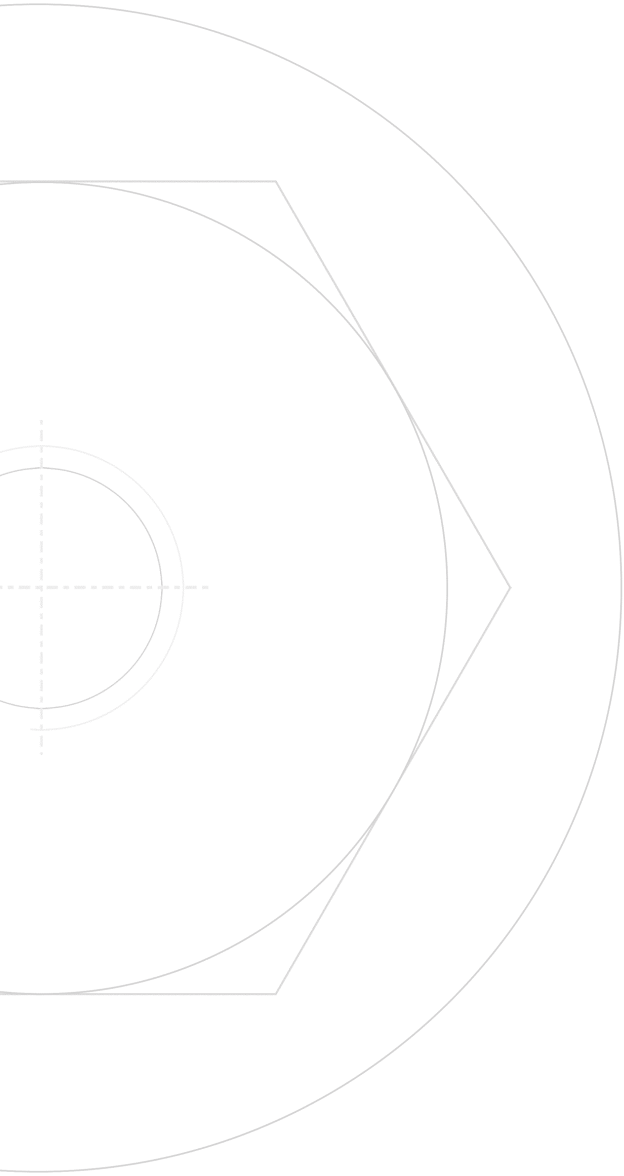
**SERVICE MAINTENANCE SUGGESTION**

| NUMBER | CODE         | DESCRIPTION                         | CYCLES |
|--------|--------------|-------------------------------------|--------|
| 1      | D.09.06.0080 | Spacer                              | 300    |
| 2      | D.09.06.0089 | Rubber spacer                       | 300    |
| 3      | D.01.15.0035 | Needle thrust bearing               | 300    |
| 4      | D.08.31.0240 | Spline drive shaft - Typhoon W/ LED | 300    |
| 4      | D.01.04.0192 | 1" Drive shaft - Typhoon W/ LED     | 300    |



Every 300 cycles make the maintenance on cordless with grase (Molykote® BR2 Plus) in the hammer mechanism.

| NUMBER | CODE         | DESCRIPTION                           | N. |
|--------|--------------|---------------------------------------|----|
| 1      | D.09.06.0080 | Spacer                                | 1  |
| 2      | D.09.06.0089 | Rubber spacer                         | 1  |
| 3      | D.01.15.0035 | Needle thrust bearing                 | 1  |
| 4      | D.08.31.0240 | Spline drive shaft - Typhoon W/ LED   | 1  |
| 4      | D.01.04.0192 | 1" Drive shaft - Typhoon W/ LED       | 1  |
| 5      | D.01.08.0073 | Flywheel - Typhoon Plus               | 1  |
| 6      | D.01.01.0265 | Handle complete assembly              | 1  |
| 7      | B.31.0040    | Fast Reverse System - Typhoon         | 2  |
| 8      | D.09.01.0119 | Countersunk screw M3 L=10mm           | 4  |
| 9      | D.09.01.0203 | Hammer kit mechanism screw            | 4  |
| 10     | B.23.0249    | Torque Indicator System Assembly - LH | 1  |
| 10     | B.23.0250    | Torque Indicator System Assembly - RH | 1  |
| 11     | B.18.0081    | Connector retaining insert            | 1  |
| 12     | D.09.01.0201 | Countersunk screw M2.5 L=6mm          | 1  |
| 13     | B.50.0012    | Typhoon Plus battery                  | 1  |



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