



OPERATING MANUAL

„MULTI” ELECTRIC WRENCH

2015 Edition

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INTRODUCTION

Dear Client!

This manual concerns the main parts of the product. It is supposed to familiarise an operator with the most important rules of operation and maintenance of a “Multi” electric wrench.

The manufacturer reserves the right to make at any time any changes or improvements both concerning the materials and design whose purpose is to constantly modernise and increase durability and functionality of the product.

“UNI-TROL” Company is responsible for the information given in this operating manual. In case of identification of errors on basis of content or editor’s mistakes, they will be corrected in the next editions.

This publication may not be copied in any part without manufacturer’s prior written consent.

GENERAL SAFETY RULES CONCERNING ELECTRIC MACHINES



All instructions and rules should be read.

Mistakes in observing the following instructions may result in electrocution, fire and/or severe body injuries.

All safety rules and instructions should be safely kept for further reference.

The notion of “electric machine” used in this manual refers to the electric machines charged by the electric energy from the web (with an electric wire).

1. Work station safety

- a) **Work station should be kept clean and well-lit.** Untidiness at work station or unlit working space may result in accidents.
- b) **This electric machine cannot be used in the area threatened by explosion, in which e.g. inflammable liquids, gases or powders are stored.** Using the electric machine in such a place may induce sparks which may cause ignition.
- c) **During use of the machine one should make sure that children and other unauthorized people are kept in a safe distance.** Distracting one’s attention may cause losing the control of the machine.

2. Electric safety

- a) **Machine plug must be suitable for the socket. Plug should not be changed in any way. There should not be any indirect connections used in case of the machines that have protective (earthed) cable.**
Original plug and suitable socket limit the risk of electrocution.
- b) **Any contact with earthed surfaces like pipes, radiators should be avoided. Nor can the machine be used on wet surface.** The risk of electrocution is greater when operator’s body is earthed.
- c) **The machine should not be exposed to rain or wet conditions.** *Water increases the risk of electrocution.*
- d) **The cable should never be used for other purposes. Nor should the machine be moved by pulling the electric cable. The cable should be protected from high temperatures, oil, sharp edges or moveable parts of the machine.** The cables that are damaged or tangled increase the risk of electrocution.
- e) **In case of working outside one should use such an extension cable that is suited for outside applications. The use of suitable extension cable (suited for outside work) decreases the risk of electrocution.**

- f) **If it is not possible to avoid using the machine in wet surroundings a differential protection switch should be used.** The use of a differential protection switch decreases the risk of electrocution.

3. People’s safety

- a) **During machine operation one must be careful and every action should be done with due attention and deliberation. The machine should not be used when one is tired or under the influence of drugs, alcohol or medications.**

A moment’s inattention may be a cause of severe injuries.

- b) **Protective equipment should always be worn including safety glasses.** Wearing personal protective equipment – boots with anti-slip soles, protective helmet, and hearing protection means – decreases the risk of injuries.

- c) **Unintentional launch of the machine should be avoided. Before putting the plug into the socket and also before transferring the electric machine, one should make sure that the machine is switched off.** Connecting the electric machine to a power source may be a cause of accidents.

- d) **Before switching the machine on all setting tools and spanners must be removed.** Tools or spanners placed in moveable parts of the machine may cause injuries.

- e) **Unnatural positions should be avoided at work. One should keep a stable position at work and keep the balance.** In this way a better control of the machine will be possible in unexpected situations.

- f) **Proper clothes should be worn. Loose clothes or jewellery should not be worn.** Hair and gloves should be kept away from moveable parts. Loose clothes, jewellery or long hair may be pulled in by moveable parts.

4. Proper use and operation of the machine

- a) **The machine should not be overloaded. One should use the electric machine suitable for the work.**

The accurately suited electric machine operation is more efficient and safer.

- b) **A machine whose on/off button is damaged should not be used.**

A machine which cannot be switched on or off is dangerous and must be repaired.

- c) **Before setting the machine, a replacement of equipment or after stopping the machine the air supplying pipe should be disconnected.**

This safety measure prevents unintended switching the machine on.

- d) **Unused machines should be stored away from children. Persons who do not know or have not read these rules should not have an access to this machine.**

Machines operated by untrained persons are dangerous.

- e) **Proper maintenance of the machine is necessary. It must be checked if the moveable parts of the machine work properly and are not locked, broken or damaged in the way that would have an impact on correct operation.**

Damaged parts should be repaired or replaced before machine operation.

Accidents may be caused by inappropriate machine maintenance.

- f) **The machine, equipment and electric working tools etc. should be used in accordance with this operating manual, its use considering working conditions and a type of work to be done.**

Using the machine in a way for which it is not intended may result in hazards.

5. Repair

- a) **Machine repair should be commissioned only to a qualified professional and only authorized spare parts may be used.**

This guarantees that machine safety will be kept.

SPECIFIC SAFETY RULES FOR THE MACHINE

- Untrained personnel may not have an access to the electric wrench operation
- Operation of the electric wrench with a damaged wire is not allowed. The damaged wire cannot be touched; in case of wire's damage during work, the plug should be put out of the socket connected to the fuse box. The damaged wires increase the risk of electrocution.
- The electric wrench should be held hard in both hands during work and safe work position should be maintained.

- Before every use one is obliged to check whether the power cable or the socket are not damaged. In the case of power cable's damage, it is essential to commission its replacement immediately to an electrician entitled to such repair.
- During the replacement or putting the socket onto the square “1”, one should make sure that the machine is switched off – on/off button in the “0” position.
- During the electric wrench operation, it is unacceptable for anyone except for the operator to be within the distance smaller than 2 m from the machine. Loose parts of clothing may be pulled in by the moveable parts of the machine
- One should set the turning direction before one starts unscrewing or screwing in.
- One should use only impact sockets to electric wrench operation, because using other sockets may result in an accident.
- Before launching the electric wrench, one should check state of the socket and state of its fastening and fastening protection
- One should ensure oneself help of a different person, in order to observe the supply main, if this supply main is lying on the drive.
- Removing any housing during the electric wrench operating or machine operating without all housing is not allowed.
- Before starting the electric wrench operating, one should check whether the vehicle, on which screws or nuts are to be screwed or unscrewed, is standing on the firm ground. It is not possible for the vehicle to slide put on various props or lifters. In case of necessity, one should preserve the area around the vehicle so that no one except for the operator, was in the danger zone.

MACHINE GENERAL CHARACTERISTICS

Machine description and intended use

MULTI electric wrench is used for screwing and unscrewing screws and nuts of truck, bus and building, farming and military vehicle wheels.

Electric wrench is destined to be operated in the open area as well as in the garages.

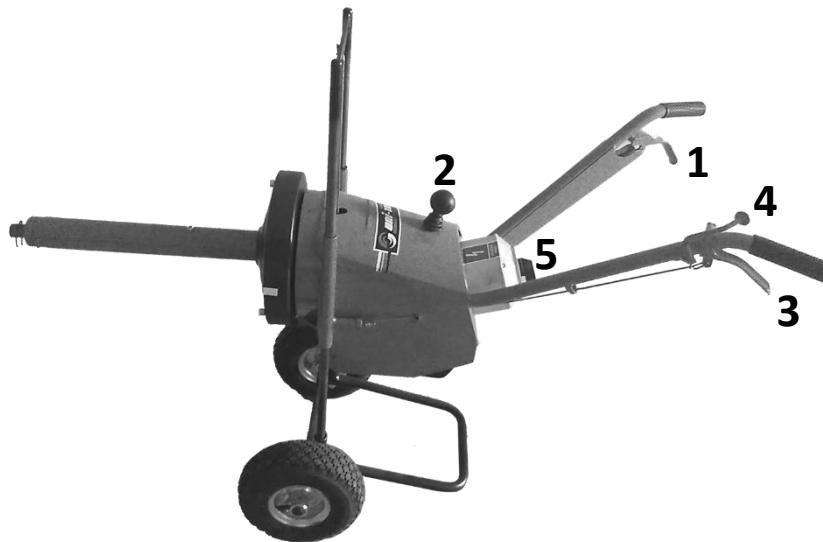
Screwing and unscrewing may be carried out in the vehicles lifted completely or partly, and resting on wheels.

MULTI Electric Wrench is powered by the electric engine.

It is operated by (look Figure 1):

- 1. Drive lever*
- 2. Head height regulating lever*
- 3. Head blockade lever at a given height*
- 4. Impact frequency controlling lever*
- 5. Electric switcher with the possibility of engine gyration's direction change.*

Construction and technical characteristics of MULTI electric wrench are fitted by the producer in such a way, as to ensure the optimal connection of operation efficiency, infallibility of the machine and also the operator's safety.



**Figure 1 – Electric wrench operating
ELECTRIC CONNECTION PREPARATION**



Electric wrench connection to the electrical network should be commissioned to a qualified electrician entitled to repairing and maintaining of electric machines.

One should be equipped with the parts necessary for connecting the electric wrench, listed below:

- 1.** Supply wire with the right length, H07RN-F 5x1 mm², ended with a socket 5x16A on one side and a plug 5x16A on the other.
- 2.** 6A fuse in the fascia (preserving the circuit to which the electric wrench is connected).
- 3.** The permanently fastened socket (e.g. to the wall) 5x16a connected to the fascia.
- 4.** It is required to use a protective residual current device in the fascia.

Connect the machine only to the alternating current. The voltage must be in accordance with the voltage given in the data plate of the machine.

MACHINE COMMISSIONING AND PREPARATORY WORK

After receiving the machine from the manufacturer or a shipping company all packaging and transport safety devices must be removed and it is necessary to check if there are no damages.

Check the completeness of the housings.

Before connecting to the electrical network, one should check, if the electric switcher of the electric wrench is in “0” position (turning off of the engine), and whether the head of the machine is set in the middle position of the height range.



Figure 2 – current switcher before connecting the machine to the network

Next, connect the electric wrench to the electric wire prepared in conformity with the previous chapter.

Put an impact socket onto the quill square of the nose and set the protection.

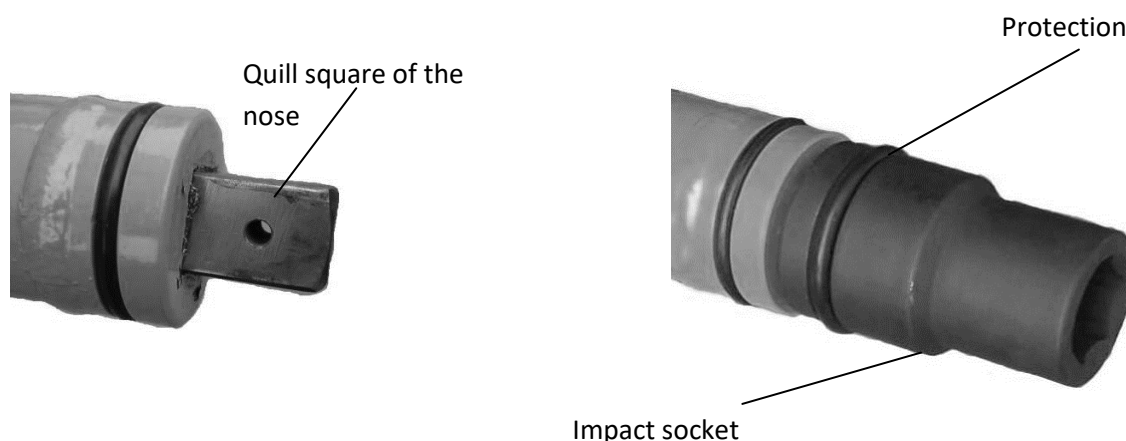


Figure 3 – putting the impact socket and the protection

After connecting the machine to the electrical network one must check the efficiency of neutralisation and then switch the switcher of the electric wrench onto any position different from zero. It will launch the electric engine.

In order to determine, what the real turning direction is, one should pull the drive lever up and next pull the impact lever with the left thumb. In this way we check, if the nose turning direction is in conformity with the electric switcher setting.

If the switcher is set in the right side from the „0” position, the nose of the wrench should turn clockwise – when we look at it from the position of the operator.

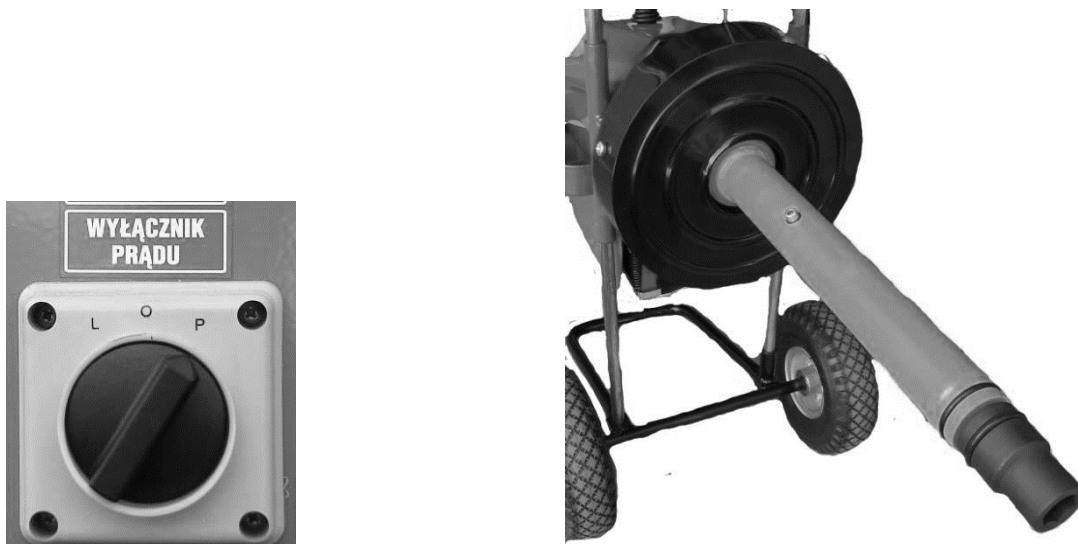


Figure 4 – way of turning direction control

When the turning direction of the nose pipe is reverse to the one set, the electrician entitled to it should change the order of phases in the supply wire.

ELECTRIC WRENCH OPERATION



Before every use one should:

- **Check the correctness of electric supply connection**
- **Check whether the socket is correctly entrenched on the square**
- **Check the protection of the socket on the square**

- Try out the electric wrench operation a few times without loading, to get the feel of it

1. UNSCREWING THE NUTS/SCREWS

- a) Before unscrewing make sure, if all the safety conditions have been respected.
- b) Drive the electric wrench to the wheel of the vehicle, whose nuts will be unscrewed.



Figure 5 – Electric wrench driving method

- c) Turn on the machine and set the turning direction, setting the electric switcher from the “0” position to the “L” position.



Figure 6 – The switcher set on unscrewing

- d)** Stand between the handles forward to the electric switcher
- e)** Push the lever (look figure 7) situated on the left handle in order to unlock the height blockade. Holding the pushed lever with your left hand, grasp the height regulation handle with your right hand AND PULLING it upwards or pushing it downwards, set the desired head height, putting the socket of the electric wrench onto the vehicle wheel's nut. After setting the height, release the lever held by your left hand. The head will be locked on the chosen height.



Figure 7 – Unlocking the height blockade and setting the desired height

- f)** Embed the socket on the nut of the wheel through a soft pushing of the lever next to the right handle, which will cause a gentle turn of the socket. Thanks to it, the hexagons of the nut and the socket will get in sync.
- g)** Push the lever next to the right handle again, slowly and fluently in order to obtain fluent turns.
- h)** Not releasing the lever next to the right handle, push gently, and release the lever on the left handle, which will launch the impact system. Holding the lever one time and releasing the impact lever will cause one strike. Holding the lever will cause many strikes.

2. SCREWING IN THE NUTS/SCREWS

- a)** We put the nut/screw onto the thread with our hands (putting it mechanically with the electric wrench may lead to damaging the thread)
- b)** We do other activities in the same way as we do during unscrewing, except that the switcher should be switched into to the “P” position.
- c)** While screwing in the nuts/screws, the producer recommends using the impact system three times (3 strikes), which will allow to obtain the force of screwing in on the level of above 650 – 750 Nm. The force of screwing in the nuts/screws of the vehicle wheels should be in conformity with the operating manual of a given vehicle. We carry out the force measurement after screwing in the nuts/screws with the dynamometric wrench.

MAINTENANCE



Before all operations with the electric wrench one should pull the plug out of the socket.

To ensure a safe and efficient operation, the electric wrench should be kept clean.

The owner should carry out the electric wrench control on one's own in certain time intervals. The control frequency should be dependent on the machine operation intensity.

The maintenance treatment suggested below by the producer will allow for a failurefree operation and machine life span lengthening.

1. Before every use of the electric wrench

Check the correct connection and electric installation functioning.

Check the solidity of the housings fastening – whether they are not loose, and also the completeness of the screws fastening the housings.

2. After every working day

Clean the machine, removing all the impurities from the gibs holding the head on the right level.

Check whether the elements of electric connection were not damaged.

Remove the potential impurities of the electric wrench handle and also clean the stickers and other signs both informational and warning.

3. After every working week

Carry out the control of the moveable elements.

Check the air pressure in the driving wheel tires.

Oil the gibs.

Take off the front housing.

Check the fan belts tension after pushing the lever next to the right handle and check the degree of their consumption.

Exchange the worn out elements and components.

Put on and fasten the housings.

4. After every working month

Take off all the housings.

In the case of necessity, regulate the swing-wheel braking system and impact system.

Exchange the worn out elements and components Put on and fasten the housings.

5. Maintenance treatment after a working year

Take off all the housings.

Dismount and carry out the control of the impact system. Pay a special attention to the cracked elements. In the case of necessity exchange the impact elements. Carry out the control of the brake facings. In the case of necessity exchange.

A qualified electrician should control the electric installation inside the electric wrench. In the case of damage, exchange for a new one.

STORAGE

The machine should be stored in a place protected from the atmospheric conditions, such as rain or snow. It should not be stored in a place exposed to the sunlight (there is a risk of electric wrench elements damage because of the infrared radiation – warmth).

In case, when the electric wrench will not be used for a longer time period, before another use, one should carry out a thorough overview of all the components and the electrical system.

TECHNICAL SPECIFICATION

Product : „MULTI” Electric wrench

ELECTRICAL SYSTEM

Rated power of the engine	1,5 kW P1-2,5HP
Rated voltage of the engine supply	400 V
Rated current of the engine	3,5 A The
current frequency	50Hz
Rated turning velocity of the engine	1400 min ⁻¹
Thermal protection	4A
Protection degree	IP X0

DIMENSIONS

Height	104 cm
Width	cm
Length	150 cm
Weight	63 kg

MECHANICAL SYSTEM

Impact power	400-2500Nm
Screwing/unscrewing velocity	410 min ⁻¹
Working height	31 – 73 cm
Socket square size 1”	
Maximal diameter of the screws/nuts’ thread	M24x1,5

SURVEY

Equivalent sound level	81 dB
Maximal sound level	(A) 103 dB (A)
Top sound level	(C) 121 dB (C)
Complete value of handle vibrations	1,747 m/s ²

OTHER

Working temperature	-10 to 35°C
Storage temperature	-20 to 45°C
Maximal ground declination (stable electric wrench operation)	- 4 °

WARRANTY CONDITIONS

1. UNI-TROL SP.Z O.O. Company guarantees:

- a) machine's material and design defects for 24 months of the purchase date
- b) Defective product should be sent to the manufacturer at their cost by agreed means of transport giving notice of date and form of delivery
- c) As a part of warranty the manufacturer replaces free of charge all elements and subassemblies which were found defective because of manufacturer's fault.

2. Loss of warranty rights in case of:

- a) Inappropriate or incompliant with the intended use electric wrench operation;
- b) making any design or functional changes;
- c) fitting unauthorized spare parts;
- d) incorrect maintenance of the machine;

3. UNI-TROL SP.Z O.O. liability:

The company is not liable for the consequences of:

- a) inappropriate or not compliant with its authorized application use of the electric wrench;
- b) machine operation by untrained operators;
- c) operators' failure to obey safety rules presented in this operating manual;
- d) lack or inappropriate maintenance;
- e) use of unauthorized spare parts;
- f) making any changes or repairs outside manufacturer's site;



EC Declaration of Conformity

in accordance with directives : 2006/42/UE, 2014/35/UE and 2014/30/UE

We : **Uni-trol Co. Ltd.**
Ul. Estrady 56
01-932 Warsaw
Poland

declare, under our exclusive responsibility, that the product:

Electric wrench
Electro-mechanical device
type MULTI ,
Serial number

concerned by this declaration, complies with all relevant requirements of the Machinery Directive:

- **directive 2006/42/UE (safety machines),**

applicable in the essential requirements and relevant conformity assessment procedures, as well as on the essential requirements of the following directives:

- **directive 2014/35/UE (the low voltage);**

- **directive 2014/30/UE (the electromagnetic compatibility).**

In order to verification of compliance with the applicable legal regulations have been consulted harmonized standards and other normative documents:

PN-EN ISO 12100:2012P

Safety of machinery -- General principles for design – Risk assessment and risk reduction

PN-EN 61000-6-3:2008P

Electromagnetic compatibility (EMC) -- Part 6-3: General standards -- Emission standard for environments: residential, commercial and light industrial

PN-EN 61000-6-4:2008P

Electromagnetic compatibility (EMC) -- Part 6-4: General standards -- Emission standard for industrial environments

PN-EN ISO 13857:2010P

Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs

PN-EN 349+A1:2010P

Safety of machinery - Minimum gaps to avoid crushing of parts of the human body

PN-EN 60204-1:2018P

Safety of machinery -- Electrical equipment of machines -- Part 1: General requirements

PN-EN 61293:2000P

Marking of electrical equipment with ratings related to electrical supply -- Safety requirements

PN-EN ISO 11201:2012P

Acoustics -- Noise emitted by machinery and equipment -- Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections

PN-EN ISO 11202:2012P

Acoustics -- Noise emitted by machinery and equipment -- Determination of emission sound pressure levels at a work station and at other specified positions applying approximate environmental corrections

The technical documentation of this device, referred to in point 1 of Annex VII A of the Machinery Directive, is located in the headquarters of manufacturer and will be made available to the competent national authorities for at least 10 years after the last piece.

The person responsible for the preparation of the technical documentation of the product and introducing changes in it, is MSc. Gregory Tworek - Member of the Board.

This EC Declaration of Conformity will be kept by the manufacturer of the product for 10 years from the date of produce the last unit and will available for market supervisory authorities for verification.

MSc. Gregory Tworek - Member of the Board.

Warsaw, 30.10.2019

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Signature