

Clarke®



ELECTRIC IMPACT WRENCH

Model No. CEW1000

PART NO: 6480300

OPERATING & MAINTENANCE INSTRUCTIONS



GC0616

INTRODUCTION & CONTENTS

Thank you for purchasing this CLARKE Impact Wrench.

Before attempting to use the machine, please read this manual thoroughly and follow the instructions carefully. In doing so you will ensure the safety of yourself and that of others around you, and you can look forward to your purchase giving you long and satisfactory service.

When unpacking, check for damage and /or shortages etc. Any found should be reported to your CLARKE dealer where the appliance was originally purchased. This CEW1000 Impact Wrench is delivered supplied with the following components:

- Impact Wrench
- 1 x 17mm Socket, Chrome Vanadium, black
- 1 x 19mm Socket, Chrome Vanadium, black
- 1 x 21mm Socket, Chrome Vanadium, black
- 1 x 22mm Socket, Chrome Vanadium, black
- Blow-Moulded Case

GUARANTEE

This product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt which will be required as proof of purchase.

This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended.

Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission. This guarantee does not effect your statutory rights.

ENVIRONMENTAL RECYCLING POLICY



Through purchase of this product, the customer is taking on the obligation to deal with the WEEE in accordance with the WEEE regulations in relation to the treatment, recycling & recovery and environmentally sound disposal of the WEEE.

In effect, this means that this product must not be disposed of with general household waste. It must be disposed of according to the laws governing Waste Electrical and Electronic Equipment (WEEE) at a recognised disposal facility.

GENERAL SAFETY RULES

WORK AREA

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

ELECTRICAL SAFETY

1. **Power tools must match the power outlet. Never modify the plug in any way. Do not use adaptor plugs with earthed (grounded) power tools.** Correct plugs and outlets will reduce the risk of electric shock.
2. **Do not expose power tools to rain or wet conditions.** Any water entering power tools will increase the risk of electric shock.
3. **Do not abuse the electrical cable. Never use the cord for pulling or unplugging the power tool. Keep the cable away from sources of heat, oil, sharp edges or moving parts.** Damaged or tangled cables increase the risk of electric shock.
4. **When operating a power tool outdoors, use an extension cable suitable for outdoor use.** Using the correct cable reduces the risk of electric shock.

PERSONAL SAFETY

1. **Stay alert, watch what you are doing and use common sense when you are operating a power tool.** Do not operate a power tool when you are tired, ill or under the influence of alcohol, drugs or medication.
2. **Wear personal protective equipment including eye protection.** Safety equipment such as a dust mask, non-skid shoes or hearing protection used for appropriate conditions will reduce injuries. Use a face or dust mask if operation is particularly dusty. Wear ear protectors/defenders as the noise level of this machine can exceed 85dB (A).
3. **Do not over-reach.** Keep your proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
4. **Avoid accidental starting of the machine.** Ensure the switch is in the off position and the locking button disengaged before plugging the machine in to the power supply. Carrying power tools around with your finger on the trigger or plugging in power tools that are switched on invites accidents.
5. **Remove any adjusting key or wrench before turning the power tool on.** A tool left attached to a moving part may result in injury.

6. **Dress properly.** Do not wear loose clothing or jewellery which may get caught in moving parts. Wear protective hair covering to contain long hair. For best footing, wear rubber soled footwear. Keep floor clear of oil, scrap wood, etc.
7. Concentrate on the job in hand, no matter how trivial it may seem. Be aware that accidents are caused by carelessness due to familiarity.
8. Switch the machine OFF immediately after the task is completed.

POWER TOOL USE AND CARE

1. **Do not force the machine.** Use the correct power tool for your application. It will do a better and safer job at the rate for which it was designed.
2. **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
3. **Disconnect the power tool from the power supply before making any adjustments, changing accessories, or storing the tool.** These measures will reduce the risk of the power tool starting accidentally.
4. **Store power tools out of the reach of children and do not allow persons unfamiliar with these instructions to operate the power tool.** Power tools are potentially dangerous in the hands of untrained users.
5. **Maintain power tools in top condition.** Keep tools/ machines clean for the best and safest performance. Check for misalignment or binding of moving parts, broken parts, or any 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.
6. **Use recommended accessories.** The use of improper accessories could be hazardous.
7. **Machine cleanliness.** Do not allow the ventilation slots in the machine to become blocked with dust.
8. **Check the power tool for damage before using the machine.** Any damaged part should be inspected to ensure that it will operate properly and perform its intended function. Check for alignment of moving parts, breakage of parts, mountings, and any other condition that may affect the machine's operation. Any damage should be properly repaired or the part replaced. If in doubt, **DO NOT** use the machine. Consult your local dealer.
9. Always allow the machine to come to a complete stop before cswitching from forward to reverse direction and vice-versa.

SERVICE

1. **When necessary, have your power tools serviced or repaired by a qualified person using identical replacement parts.** This will ensure that the safety of the power tool is maintained.

IMPACT WRENCH SAFETY INSTRUCTIONS

1. **Use the wrench correctly.** Only use the impact wrench in the manner and for the functions described in these instructions.
2. **Changing Sockets.** Always disconnect the machine from the power supply when changing sockets etc. Use only Impact Wrench sockets....DO NOT use standard sockets.
3. **Achieve the correct torque.** Always finish tightening wheel nuts with a torque wrench or suitable spanner to the wheel-nut torque as recommended by the vehicle manufacturer.
4. **Avoid excessive use of the wrench.** When tightening a nut or bolt, never allow the wrench to impact more than 8 times - to avoid over tightening - 3 to 4 impacts is sufficient.
5. **Care of the mains cable.** Keep the mains cable well away from the machine and ensure an adequate electrical supply is close at hand so that the operation is not restricted by the length of the cable.
6. **Use outdoor extension leads.** If working outdoors, always use an approved cable extension suitable for the power rating of this tool (see specifications), the conductor size should also be at least the same size as that on the machine, or larger. When using a cable reel, always unwind the cable completely.

Please keep these instructions in a safe place for future reference.

ELECTRICAL CONNECTIONS

This product is provided with a 13 amp, 230 volt (50Hz), BS 1363 plug, for connection to a standard, domestic electrical supply. Should the plug need changing at any time, ensure that a plug of identical specification is used.



WARNING: THIS APPLIANCE IS OF DOUBLE INSULATED DESIGN



No earth conductor is provided. The two wires in the mains lead should be wired in accordance with the following colour code:

Blue	—	Neutral
Brown	—	Live

Connect the BROWN coloured cord to the plug terminal marked a letter "L"

Connect the BLUE coloured cord to the plug terminal marked a letter "N"

If this appliance is fitted with a plug which is moulded on to the electric cable (i.e. non-rewireable) please note:

1. The plug must be thrown away if it is cut from the electric cable. There is a danger of electric shock if it is subsequently inserted into a socket outlet.
2. Never use the plug without the fuse cover fitted.
3. Should you wish to replace a detachable fuse carrier, ensure that the correct replacement is used (as indicated by marking or colour code).
4. Replacement fuse covers can be obtained from your local Clarke dealer or most electrical stockists.

FUSE RATING

The fuse in the plug must be replaced with one of the same rating and this replacement must be ASTA approved to BS1362.

If in any doubt, consult a qualified electrician. DO NOT attempt any electrical repairs yourself.

CABLE EXTENSION

Always use an approved cable extension suitable for the power rating of this tool (see specifications), the conductor size should also be at least the same size as that on the machine, or larger. When using a cable reel, always unwind the cable completely.

OVERVIEW

The CLARKE CEW1000 Impact Wrench is equipped with a 3-position Forward/Reverse/Neutral trigger switch (item 4 below). When the trigger is squeezed downwards, rotation is forward (clockwise). When squeezed upwards, the direction of rotation is reversed (anti-clockwise), and when in the centre position the tool is stopped.



1. 1/2" Square Socket Drive
2. Metal Gear Housing
3. Ventilation Slots
4. Forward / Reverse Trigger Switch
5. Hand Grip
6. Plug & Cable
7. Brush replacement openings
8. Sockets

OPERATING INSTRUCTIONS



ALWAYS ENSURE THAT THE MACHINE IS DISCONNECTED FROM THE POWER SUPPLY BEFORE CHANGING THE SOCKET.

WHEN CHANGING FROM FORWARD TO REVERSE OPERATION OR VICE-VERSA, ALWAYS ENSURE THE MACHINE HAS FULLY STOPPED BEFORE SWITCHING ON IN THE NEW DIRECTION.

LOOSENING A NUT

1. Remove any wheel trim, before selecting the appropriate socket and placing firmly on the square drive of the wrench.



ENSURE THAT THE CORRECT SOCKET IS BEING USED FOR THE NUTS ON YOUR PARTICULAR VEHICLE. AN INCORRECT SOCKET SIZE IS LIKELY TO DAMAGE THE HEADS OF THE BOLTS OR NUTS.

2. With the FORWARD/NEUTRAL/REVERSE switch in the REVERSE (R) position, and holding the wrench firmly in BOTH HANDS, pull the trigger fully. The nut will be impacted repeatedly until it is loosened. **IMPORTANT!** Release the trigger immediately the nut begins to loosen.
3. Jack up the vehicle according to the vehicles handbook so that the wheel is clear of the ground, then proceed to fully undo the wheel nuts.

TIGHTENING A NUT

1. Start the nut by hand, ensuring it is not cross threaded, then with the appropriate socket installed on the wrench, place it on the nut.
2. With the FORWARD/NEUTRAL/REVERSE switch in the FORWARD (F) position, and holding the wrench firmly in BOTH HANDS, pull the trigger gently.
3. Run each nut up in turn until it is 'nipped' up only - do not tighten. When all nuts are nipped up, tighten progressively by pulling the trigger fully and allowing the action to operate for 3 to 4 impacts only to prevent overtightening.
4. ALWAYS finish tightening with a torque wrench or suitable spanner. The weight of the vehicle will need to be placed on the wheel to prevent it from rotating while the nuts are tightened. Ensure the final torque applied to the nuts meets the vehicle manufacturer's recommendations.

MAINTENANCE

CLEANING

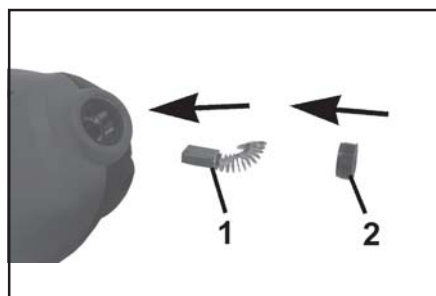
1. Always inspect the tool before use and ensure it is in top condition.
2. Ensure all air vents are clear, (use compressed air to clean the machine if possible).

GENERAL MAINTENANCE

1. Ensure all nuts, bolts and screws remain tight to ensure the machine is in safe working condition.
2. Refer to your CLARKE dealer if internal maintenance is required.
3. Check the power cable to ensure it is sound and free from cracks, bare wires etc. Avoid using solvents when cleaning plastic parts. Most plastics are susceptible to damage from the various types of commercial solvents.
 - All bearings etc, in this tool are lubricated with a sufficient amount of high grade lubricant for the tools lifetime under normal operating conditions, therefore no further lubrication is required.

REPLACING THE CARBON BRUSHES

1. Remove and inspect the carbon brushes after long periods of use.
2. Replace them when they eventually wear down.
 - The brushes should be kept clean and free to slide up and down in the holders. Both brushes should be replaced at the same time as a pair. Only use identical brushes from your Clarke dealer.
3. Use a screwdriver to remove the brush holder covers from the machine body. Draw out the worn brushes and insert new ones before replacing the brush holder caps.



STORAGE

1. Make sure that the tool is stored in a clean, dry place, out of reach of children when not in use.
2. Always store the impact wrench and its sockets in the case supplied.

FAULT FINDING

MACHINE DOES NOT OPERATE WHEN SWITCHED ON

Check to ensure the fuse is sound and replace if necessary. If the fuse is sound or blows repeatedly, consult your CLARKE dealer.

EXCESSIVE SPARKING OCCURS

This indicates worn brushes. This problem is quickly remedied by replacing the brushes as on page 10, or alternatively consult your CLARKE dealer for their replacement.

TECHNICAL SPECIFICATION

Item	Specification
Model	CEW1000
Part No	6480300
Weight	3.9 kg
Dimensions	295 x 95 x 230
Voltage	230v / 50 Hz
Max Power Output	1.01 kw
No-load Speed	0-2200 rpm
Max Torque	450 Nm
Typical Sound Pressure	113 dB(A)
Typical Sound Power	102 dB LpA

Please note that the details and specifications contained herein, are correct at the time of going to print. However, CLARKE International reserve the right to change specifications at any time without prior notice. Always consult the machine's data plate.

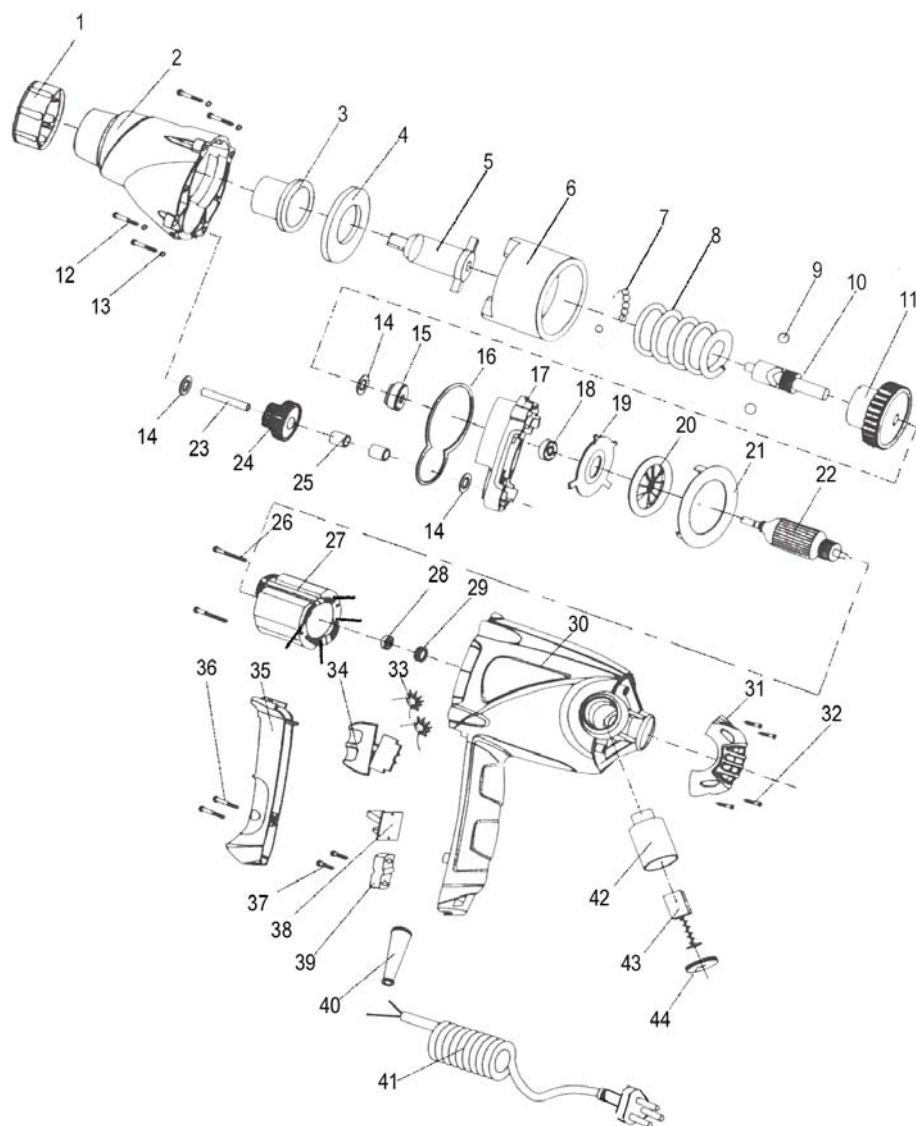
A wide range of accessories is available from your nearest CLARKE dealer, for further information, contact your nearest dealer, or telephone CLARKE International Sales department on 01992 565300.

SPARE PARTS LIST

No	DESCRIPTION	Qty	No	DESCRIPTION	Qty
1	Plastic Collar	1	23	Spindle	1
2	Gear Housing	1	24	Spur Gear	1
3	Bearing Sleeve	1	25	Bearing	2
4	Thrust Washer	1	26	Cross-head Screw	2
5	Spindle	1	27	Stator Assembly	1
6	Impact Driver	1	28	Motor Bearing	1
7	Ball Bearings	24	29	Bearing Cap	1
8	Impact Spring	1	30	Main Housing	1
9	Steel Ball	2	31	Rear Cover	1
10	Clutch Spindle	1	32	Cross-head Screw	4
11	Large Gear	1	33	Inductor	1
12	Screw	4	34	On/Off Switch	1
13	Spring Washer	4	35	Hand Grip	1
14	Washer	3	36	Cross-head Screw	2
15	Ball-race	1	37	Cross-head Screw	2
16	Paper Gasket	1	38	Connecting block	1
17	Centre Cover	1	39	Anchor Block	1
18	Bearing	1	40	Cable Entry Sleeve	1
19	Bearing Cover	1	41	Cable with Plug	1
20	Fan	1	42	Brush Holder	2
21	Air-tight Closure	1	43	Motor Brush	2
22	Armature Assy	1	44	Brush Cover	2

When ordering spare parts, please quote the prefix WG/CEW1000, followed by the number above.

SPARE PARTS DIAGRAM



VIBRATION EMISSIONS

HAND-ARM VIBRATION

Employers are advised to refer to the HSE publication "Guide for Employers".

All hand held power tools vibrate to some extent, and this vibration is transmitted to the operator via the handle, or hand used to steady the tool. Vibration from about 2 to 1500 herz is potentially damaging and is most hazardous in the range from about 5 to 20 herz.

Operators who are regularly exposed to vibration may suffer from Hand Arm Vibration Syndrome (HAVS), which includes 'dead hand', 'dead finger', and 'white finger'. These are painful conditions and are widespread in industries where vibrating tools are used.

The health risk depends upon the vibration level and the length of time of exposure to it.....in effect, a daily vibration dose.

Tools are tested using specialised equipment, to approximate the vibration level generated under normal, acceptable operating conditions for the tool in question. For example, a grinder used at 45° on mild steel plate, or a sander on softwood in a horizontal plane etc.

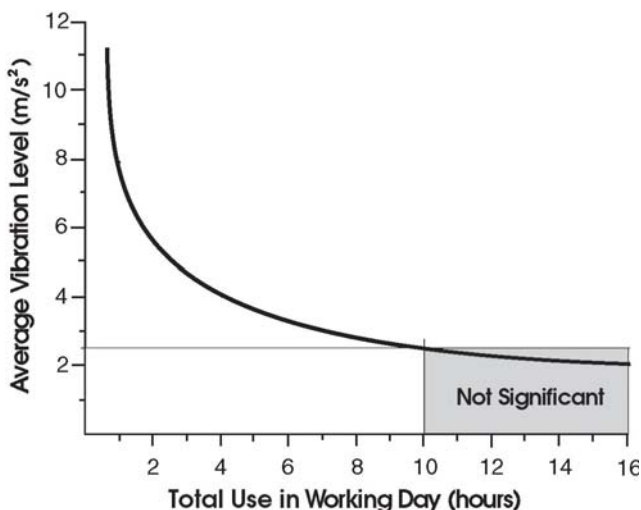
These tests produce a value 'a', expressed in metres per second per second, which represents the average vibration level of all tests taken, in three axes where necessary, and a second figure 'K', which represents the uncertainty factor, i.e. a value in excess of 'a', to which the tool could vibrate under normal conditions. These values appear in the specification panel below.

MODEL No:	CEW1000		
DESCRIPTION:	1000W IMPACT WRENCH		
Declared vibration emission value in accordance with EN12096			
Measured vibration emission value - a :	6.55m/s ²		
Uncertainty value - K :	1.5m/s ²		
Values determined according to EN28622-1			

You will note that a third value is given in the specification - the highest measured reading in a single plane. This is the maximum level of vibration measured during testing in one of the axes, and this should also be taken into account when making a risk assessment.

'a' values in excess of 2.5 m/s^2 are considered hazardous when used for prolonged periods. A tool with a vibration value of 2.8 m/s^2 may be used for up to 8 hours (cumulative) per day, whereas a tool with a value of 11.2 m/s^2 may be used for $\frac{1}{2}$ hour per day only.

The graph below shows the vibration value against the maximum time the respective tool may be used, per day.



The uncertainty factor should also be taken into account when assessing a risk. The two figures 'a' and 'K' may be added together and the resultant value used to assess the risk.

It should be noted that if a tool is used under abnormal, or unusual conditions, then the vibration level could possibly increase significantly. Users must always take this into account and make their own risk assessment, using the graph above as a reference.

Some tools with a high vibration value, such as impact wrenches, are generally used for a few seconds at a time, therefore the cumulative time may only be in the order of a few minutes per day. Nevertheless, the cumulative effect, particularly when added to that of other hand held power tools that may be used, must always be taken into account when the total daily dose rate is determined.

DECLARATION OF CONFORMITY



Clarke[®]
INTERNATIONAL

Hemnoll Street, Epping, Essex CM16 4LG

DECLARATION OF CONFORMITY

This is an important document and should be retained.

We hereby declare that this product(s) complies with the following directive(s):

2014/30/EU *Electromagnetic Compatibility Directive.*
2006/42/EC *Machinery Directive.*
2011/65/EU *Restriction of Hazardous substances.*

The following standards have been applied to the product(s):

EN 60745-1:2009+A11, EN 60745-2-2:2010, EN 55014-1:2006+A1+A2, EN 55014-2:1997+A1+A2,
EN 61000-3-2:2014, EN 61000-3-3:2013.

The technical documentation required to demonstrate that the product(s) meet(s) the requirement(s) of the aforementioned directive(s) has been compiled and is available for inspection by the relevant enforcement authorities.

The CE mark was first applied in: 2008

Product Description: Electric Impact Wrench (1010 W)
Model number(s): CEW 1000
Serial / batch Number: N/A
Date of Issue: 10/06/2014

Signed:

J.A. Clarke
Director

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