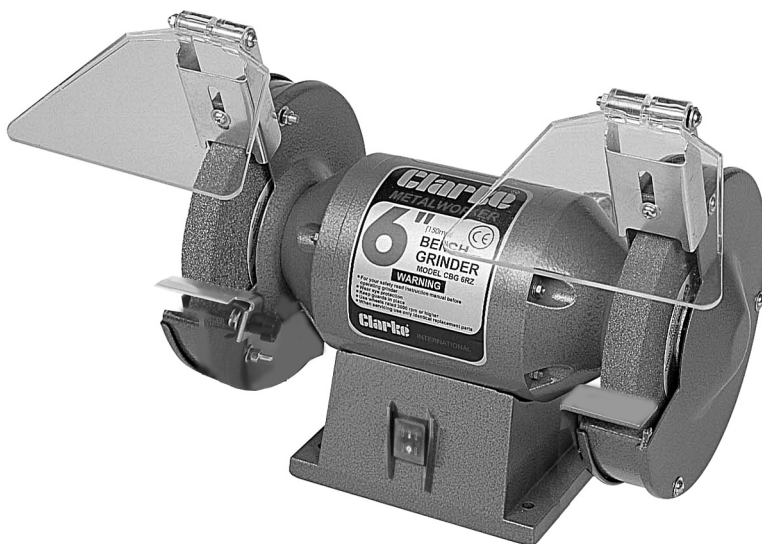


# Clarke®

## ***METALWORKER***



## **BENCH GRINDER**

MODEL NO: CBG6RZ

PART NO: 6500105

## **OPERATING & MAINTENANCE INSTRUCTIONS**



ORIGINAL INSTRUCTIONS

GC0121 -rev 6

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## INTRODUCTION

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Thank you for purchasing this CLARKE Bench Grinder.

Before attempting to use this product, 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.

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## GUARANTEE

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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.

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## ENVIRONMENTAL PROTECTION

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Do not dispose of this product with general household waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of according to the laws governing Waste Electrical and Electronic Equipment.

Through the 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.

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## GENERAL SAFETY RULES

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CAUTION: FAILURE TO FOLLOW THESE PRECAUTIONS COULD RESULT IN PERSONAL INJURY, AND/OR DAMAGE TO PROPERTY.

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### WORK ENVIRONMENT

1. Keep the work area clean, tidy 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, gases or dust. Power tools create sparks which may ignite the dust or fumes.
3. Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

### PERSONAL SAFETY

1. 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 personal injury.
2. Avoid accidental starting. Ensure the switch is in the off position before plugging in. Plugging in power tools that have the switch on invites accidents.
3. Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
4. Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewellery or long hair can be caught in moving parts.
5. Gloves, manufactured to the current European safety standards should be worn when operating grinding equipment.
6. Eye protection manufactured to the current European safety standards should be worn when operating grinding equipment. Eye protectors must provide protection from flying particles from the front and the side.

### GENERAL USE AND CARE OF POWER TOOLS

1. ALWAYS check for any damage or condition that could affect the grinder's operation. Any damaged part should be properly repaired.
2. NEVER use the grinder if it is defective or operating abnormally.

3. NEVER abuse the mains cable. Never yank the cable to disconnect it from the socket. Keep the cable away from sharp edges/hot surfaces.
4. NEVER carry out any alterations or modifications to this product.
5. NEVER wipe the sharpener clean with solvents. Wipe plastic parts with a soft cloth, slightly dampened with soapy water.
6. NEVER attempt any repairs yourself. If you have a problem with this product contact your local CLARKE dealer.
7. Do not use the tool for any purpose than that described in this manual.
8. Always maintain the tool with care. Keep it clean for the best and safest performance.
9. 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 which it was designed.
10. 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.
11. Store idle 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.
12. Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tools operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.
13. Use the power tool and accessories in accordance with these instructions and in the manner intended for the particular type of power tool, taking into account the working conditions and the work to be performed. Use of the power tool for operations different from intended could result in a hazardous situation.

## **ELECTRICAL SAFETY**

1. Power tool plugs must match the outlet. Never modify the plug in any way. Do not use adapter plugs with earthed (grounded) power tools. Correct plugs and matching outlets will reduce the risk of electric shock.
2. Do not abuse the cable. Never use it for carrying, pulling or unplugging the power tool. Keep the cable away from heat, oil, sharp edges or moving parts. Damaged or entangled cables increase the risk of electric shock.
3. Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock. If operating the power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.

4. When operating a power tool outdoors, use an extension cable suitable for outdoor use. Use of a cable suitable for outdoor use reduces the risk of electric shock.

## **GRINDING STONE SAFETY**

1. Check the speed of the grindstone before fitting to your grinder. Never use a stone with a rpm speed less than the rpm speed of your grinder. See specification.
2. The outside diameter and thickness of your accessories must be within the capacity rating of the power tool. The correct size accessories can be correctly guarded and controlled.
3. Never use a stone that is chipped, cracked or damaged. Fragments from a broken or damaged grinding stone can cause serious injury. Make sure that defective stones are destroyed and not used.
4. Bonded abrasive products are breakable and shall therefore be handled with utmost care. The use of damaged or improperly mounted or used abrasive products is dangerous and can cause serious injuries.
5. Always refer to the label for specified usage and observe the safety information. Do not use for purposes other than specified.
6. Always use the correct stone for it's intended task. Using the incorrect stone can cause serious injury.
7. Allow the stone and tool to do the work. Never force the workpiece against the stone as this could cause kickback and/or shatter the stone causing serious injury.
8. Do not use separate reducing bushes or adapters to adapt large hole abrasive wheels. Do not force a stone onto a machine or alter the size of the arbor hole.
9. Never use a damaged grinding stone. Inspect the stone before each use for chips, cracks or excess wear. If the tool or accessory is dropped, inspect for damage or install a new accessory. After fitting the accessory, position yourself away from the plane of the rotating accessory and run the tool at full speed. damaged stones may break apart during this test.
10. Abrasive products shall be handled and transported with care. Abrasive products shall be stored in such a manner that they are not subjected to mechanical damage and harmful environmental influences.

## **BENCH GRINDER SAFETY WARNINGS**

1. Hold a hand tool or blade being sharpened firmly to prevent loss of control.
2. Never install a abrasive flap wheel or sanding disc on this grinder.
3. Always replace a cracked grinding wheel immediately.

4. Never use damaged or incorrect grindstones. The stone and retaining fixtures were specially designed for your grinder, for optimum performance and safety of operation. Inspect the condition of the grinding stone before use and do not use if any damage is found.
5. Always use the tool rests to steady the workpiece, the torque of the spinning grinding wheel may pull the workpiece from your hands.
6. ALWAYS check for damaged parts. Before further use any part that is damaged should be carefully checked to determine if it would operate properly and perform its intended function. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the tool's operation. A part that is damaged should be properly repaired or replaced at an authorised service center. Following this rule will reduce the risk of electric shock, fire or serious injury.

**NOTE:** Bench grinders used in industrial environments may be subject to the requirements of The Provision and Use of Work Equipment regulations 1992 (particularly regarding the training requirement of The Abrasive Wheels Regulations 1970), or other legislation. If in doubt seek advice.

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

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## SAFETY SYMBOLS

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The meanings of the markings and symbols on the product are shown below

	Read this manual before use and keep in a safe place for future reference		Wear eye protection when using this tool.
	Gloves should be worn when grinding.		Wear dust mask.

# ELECTRICAL CONNECTIONS



**WARNING! READ THESE ELECTRICAL SAFETY INSTRUCTIONS THOROUGHLY BEFORE CONNECTING THE PRODUCT TO THE MAINS SUPPLY.**

Before switching the product on, make sure that the voltage of your electricity supply is the same as that indicated on the rating plate. This product is designed to operate on 230VAC 50Hz. Connecting it to any other power source may cause damage.


This product may be fitted with a non-rewireable plug. If it is necessary to change the fuse in the plug, the fuse cover must be refitted. If the fuse cover becomes lost or damaged, the plug must not be used until a suitable replacement is obtained.

If the plug has to be changed because it is not suitable for your socket, or due to damage, it should be cut off and a replacement fitted, following the wiring instructions shown below. The old plug must be disposed of safely, as insertion into a mains socket could cause an electrical hazard.

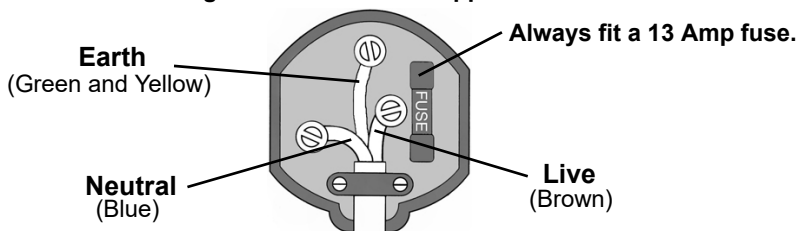


**WARNING! THE WIRES IN THE POWER CABLE OF THIS PRODUCT ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE: BLUE = NEUTRAL BROWN = LIVE YELLOW AND GREEN = EARTH**

If the colours of the wires in the power cable of this product do not correspond with the markings on the terminals of your plug, proceed as follows.

- The **Blue** wire must be connected to the terminal marked **N** or coloured **Black**.
- The **Brown** wire must be connected to the terminal marked **L** or coloured **Red**.
- The **Yellow and Green** wire must be connected to the terminal marked **E** or  or coloured **Green**.

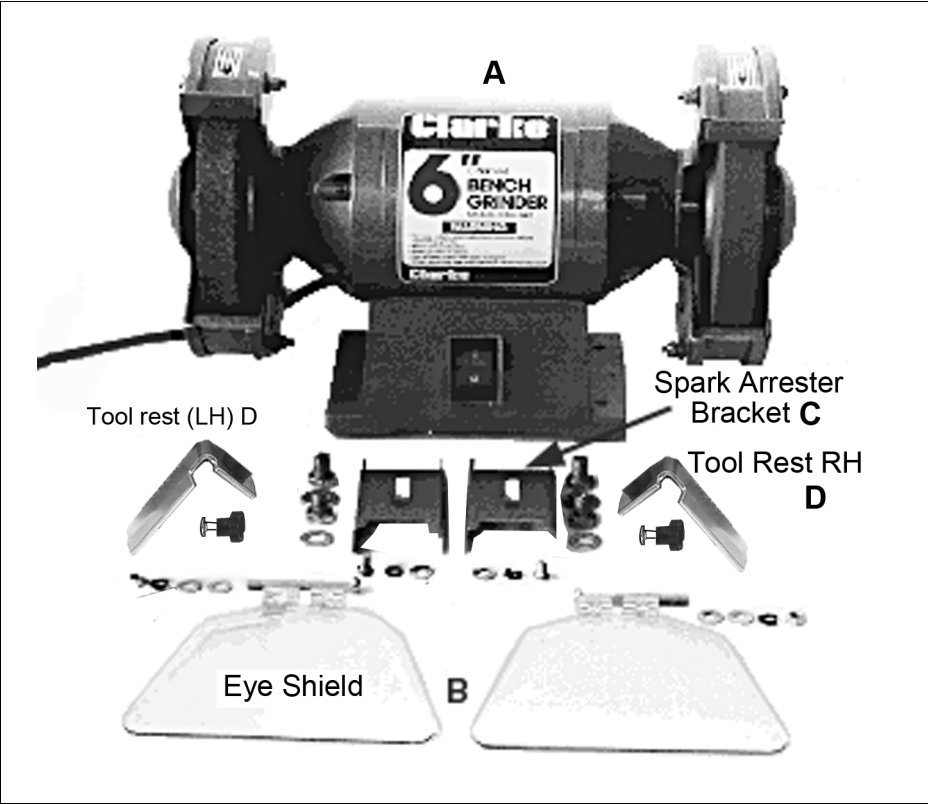
**Plug must be BS1363/A approved.**



**Ensure that the outer sheath of the cable is firmly held by the clamp**

We strongly recommend that this machine is connected to the mains supply via a Residual Current Device (RCD). If in any doubt, consult a qualified electrician. DO NOT attempt any repairs yourself.

# OVERVIEW



No	Description
A	Main body with power cable
B	Two eye shields (each with nut, bolt, spring washer, & flat washers)

No	Description
C	Two Spark Arrester Brackets (each with screw, spring washer, & flat washer.)
D	Two Tool Rests (each with hand knobs, screws, locking washers & flat washers.)

The items above should be supplied with the grinder. If any items are missing or damaged, please contact the dealer where you purchased the product.

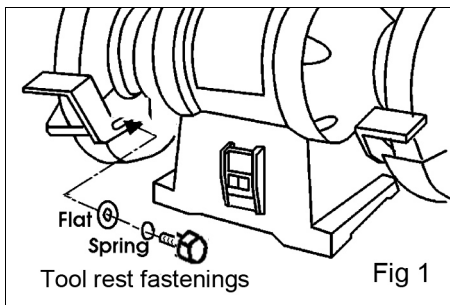
Position the machine in good light and fixed to a suitable workbench using the boltholes in the machine base.



## ASSEMBLY

1. Fix the tool rests with the locking knobs bolts and washers provided, as shown in Fig. 1.

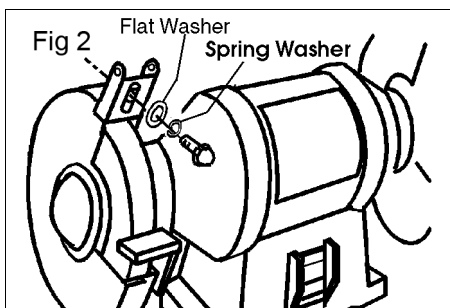
- The tool rests are adjustable and should be positioned 1/16" (1.6mm) from the grinding wheels. Ensure that the tool rest is firmly fixed and horizontal.



2. Assemble the spark arrester brackets onto the wheel guards, using the screws and washers provided as shown in Fig 2.

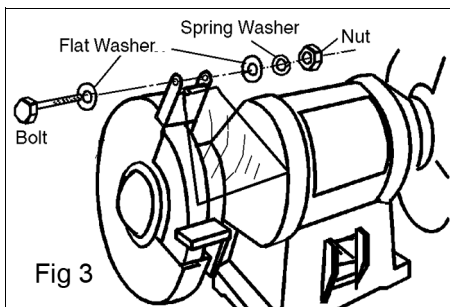
3. Before fully tightening the screws, each bracket should be adjusted by sliding it as close to the grinding wheels as possible without impairing the wheels rotation.

- As the wheel wears down with use, it will be necessary to re-adjust the spark arrester brackets in order to maintain a gap between the spark arrester and the bracket. This gap should never be allowed to become greater than 1/8".



4. Assemble the eye shields onto the spark arrester brackets using the nuts, bolts and washers supplied as shown in Fig.3.

- The angle for the eye shields can be adjusted to suit the operator



We recommend that your Bench Grinder is secured to your workbench before operation using the pre-drilled holes in the base. Do not overtighten the mounting bolts as this could damage the plastic base.

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# USING YOUR GRINDER

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**WARNING: FRAGMENTS FROM A BROKEN/DETACHED GRINDING WHEEL CAN CAUSE INJURY.**

**WARNING: ENSURE THAT THE WORKING POSITION ADOPTED DOES NOT CAUSE OPERATOR FATIGUE WHICH MAY LEAD TO LOSS OF CONTROL OF THE TOOL BEING GROUND.**

**WARNING: THE STONE WILL CONTINUE TO ROTATE BRIEFLY AFTER THE OFF SWITCH HAS BEEN PRESSED.**

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## GENERAL USE

1. To start/stop the grinder, press the ON/OFF switch and start work.
2. Press the tool blade evenly onto the grinding stone and move the tool sideways across the stone. Make sure that at least half the width of the tool cutting edge comes into contact with the grinding stone at any time to avoid damage to the stone.
3. Allow the stone to do the work. Do not apply excessive downward pressure on the tool when grinding.

## EYESHIELD AND SPARK ARRESTER BRACKET ADJUSTMENT

The see-through eye shields allow the user to see the operation clearly and to work precisely. The eye shields can be adjusted up and down as required.

The spark arrester brackets should be adjusted so that they are as close as possible to the grinding wheel without impairing the wheels rotation.

***IMPORTANT: Even though the eye shields are fitted, you should nevertheless wear safety goggles when operating a bench grinder.***

## TOOLREST ADJUSTMENT

The appropriate adjustment of the tool rests provides the operator with a correct working angle and a firm and efficient base for working. Adjustments can be made by loosening the locking knobs and moving the tool rest to within 1/16" (1.6mm) from the wheel.

Due to the wear on the grinding wheel it will be necessary to adjust the tool rests from time to time. Always re-tighten the mounting screws once adjustment is complete.

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# MAINTENANCE

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## GENERAL MAINTENANCE

Ensure that all components are tight and secure. Always have any damaged or worn parts repaired or replaced by qualified service personnel. Do not attempt to repair the grinder unless you are qualified to do so.

The drive motor and bearings are sealed units and require no maintenance. Should you require assistance, contact your local Clarke service agent.

The stone will wear down with use and may well go out of true. Use a dressing wheel or stone grader to correct the trueness and to remove worn, glazed grains from the stone.

The stone will have a finite life expectancy, dependant upon the nature of the work being done. Periodically, make a note of the wheel diameter and replace your (150mm) dia wheel if it reduces to an little as (130mm) in diameter.

## INSTALLING A NEW GRINDING STONE

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CAUTION: NEVER RE-START THE GRINDER WITHOUT THE GUARDS INSTALLED.

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To renew or change the grinding wheels, proceed as follows

1. Switch off and un-plug from power supply.
2. Disassemble outer covers, left or right, by removing the three cover retaining nuts, bolts and washers.
3. Slacken the spark arrester bracket and tool rest mounting knobs and pull the bracket and tool rest away from the wheel.
4. Hold the grinding wheel firmly and remove the nut and flange from the shaft, noting that the **left hand wheel nut has a left hand thread**.
5. Take off the used wheel and replace with the new one, ensuring:
  - the paper blotters are in place either side of the wheel.
  - that there is a good balanced rotation of the grinding wheel, and
  - you do not overtighten the wheel nut.
6. Refit outer covers, left or right, by using the three cover retaining nuts, bolts and washers.
7. Re-adjust the tool rest and spark arrester brackets as described above.

8. Switch the machine on and allow it to rotate freely for at least one minute.

## DRESSING A NEW STONE

New grinding stones are frequently not true or in time can become grooved, glazed (built-up), out of round or otherwise mis-shapen. To correct these defects, a grinding stone dresser is available from your Clarke dealer.

- ET125 Grinding Wheel Dresser - Part No:1700225
  - Replacement Dresser Wheel - Part No:1700230
  - ET154 ½ Carat Diamond Tip Wheel Dresser - part No:1700329
1. If the grinding stone is new, allow it to spin for a minute with no load. Check that it is spinning straight and true. If not, it will require dressing before use.
  2. Stand to the side of the stone and hold the dresser handle firmly. Place the dresser on the tool support so that its wheels can move freely (i.e, the exposed part of the wheel should be facing up). Run the stone and apply the dresser to the surface of the stone.

## CLEANING & STORAGE

Clean the exterior the machine if required using a mild detergent or mild solvent. Never immerse the machine in water. To reduce any fire hazard, keep any cooling vents in the grinder free of debris.

If not bolted to a workbench, store the grinder in a clean, dry location, out of reach of children.

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## SPECIFICATIONS

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Feature	Value
Weight	9 kg
Grinding Stone Dimensions (D x T)	150 x 20 mm
Rated Voltage / Frequency	230 V / 50 Hz
Motor Wattage	200 W
No Load Speed	2950 rpm
Duty Cycle Classification	S2 (30 minutes in any 60 minute period)

# DECLARATION OF CONFORMITY



**Clarke<sup>®</sup>**  
**INTERNATIONAL**

Hemnal 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, (amended by 2015/863).*

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

*EN 62841-3-4:2016+A11:2017, EN 62841-1:2015, EN 55014-1:2017, EN 55014-2:2015,*

*EN 61000-3-2:2019, 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.

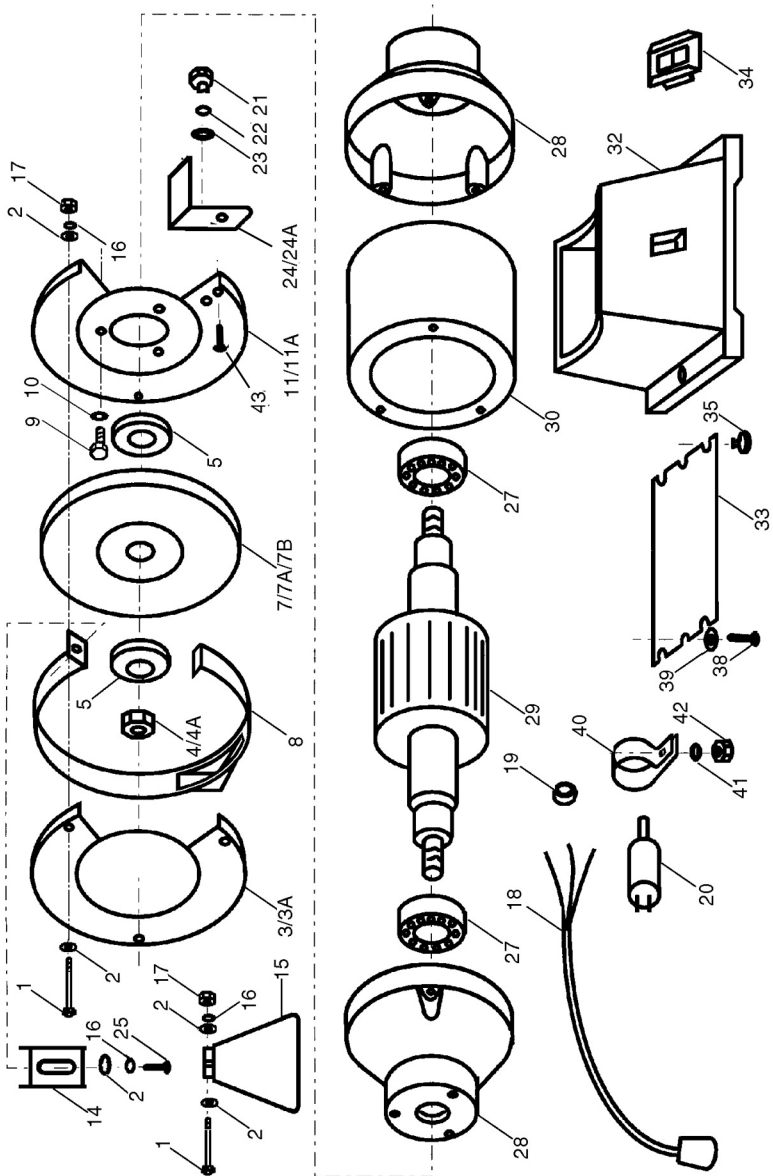
The CE mark was first applied in: 2001

<b>Product Description:</b>	Bench and Whetstone Grinders
<b>Model number(s):</b>	CBG6RZ, CBG6RP, CBG6SB, CBG8W.
<b>Serial / batch Number:</b>	N/A
<b>Date of Issue:</b>	26/08/2020

**Signed:**

**J.A. Clarke**  
**Director**

# COMPONENT PARTS DIAGRAM



## COMPONENT PARTS LIST

No	Description	Part No
1	Bolt	HT6481901
2	Washer	HT6481902
3	Outer Cover LH	HT6481903
3A	Outer Cover RH	HT6481903A
4	Wheel Locking Nut LH	HT6481904
4A	Wheel Locking Nut RH	HT6481904A
5	Wheel Retaining Disc	HT6481905
7	6" Grinding Wheel (coarse)	6501045
7A	6" Grinding Wheel (medium)	6501044
7B	6" Grinding Wheel (fine)	6501043
8	Middle Ring	HT6481908
9	Screw	HT6481909
10	Spring Washer	HT6481910
11	Inner Cover LH	HT6481911
11A	Inner Cover RH	HT6481911A
14	Eye Shield Bracket	HT6481914
15	Eye Shield	HT6481915
16	Spring Washer	HT6481916
17	Nut	HT6481917
18	Power Cable	HT5481918
19	Cable Clamp	HT5481919
20	Capacitor	HT6481920

No	Description	Part No
21	Hand knob	n/a
22	Spring Washer	3040582
23	Flat Washer	3044576
24	Tool Rest LH	HT6481924
24A	Tool Rest RH	HT6481924A
25	Screw	HT6481925
26	Spring Washer	HT6481926
27	Bearing	HT6481927
28	Body End Cover	HT6481928
29	Rotor/ shaft	HT6481929
30	Stator/Body	HT6481930
32	Base	HT6481932
33	Bottom Plate	HT6481933
34	Switch Assembly	HT6481934
35	Rubber Foot	HT6481935
38	Screw	HT6481936
39	Washer	HT6481939
40	Capacitor bracket	HT6481940
41	Washer	HT6481941
42	Nut	HT6481942
43	Screw	n/a

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## PARTS & SERVICE: 0208 988 7400

### Parts Enquiries

[Parts@clarkeinternational.com](mailto:Parts@clarkeinternational.com)

### Servicing & Technical Enquiries

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SALES: UK 01992 565333 or Export 00 44 (0)1992 565335

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