

Clarke®

METALWORKER



250MM BENCH GRINDER

MODEL NO: CBG250

PART NO: 6500104

OPERATING & MAINTENANCE INSTRUCTIONS



ORIGINAL INSTRUCTIONS

GC 05/25

INTRODUCTION

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.

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.

SPECIFICATIONS

Weight	30.4kg
Product dimensions (L x W x H)	350 x 500 x 350mm (guards & tool rest fitted)
Grinding Stone Dimensions	250 dia x 25 mm thick (20mm bore)
Grinding Stone grade	36 Coarse/60 Medium (max 4450 rpm)
Rated Voltage / Frequency	230 V / 50 Hz
Rated Input Wattage	750 W
No Load Speed	2980 rpm
Ingress protection rating	IP20
Duty cycle classification	S1
Cable length	1.75m

GENERAL SAFETY RULES



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

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. 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 machine 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 on page 2.
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.

SAFETY SYMBOLS

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.
	Wear ear protection when grinding.		Wear dust mask.

ELECTRICAL CONNECTIONS



WARNING! READ THESE ELECTRICAL SAFETY INSTRUCTIONS FULLY BEFORE CONNECTING THE MACHINE TO THE MAINS SUPPLY.

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

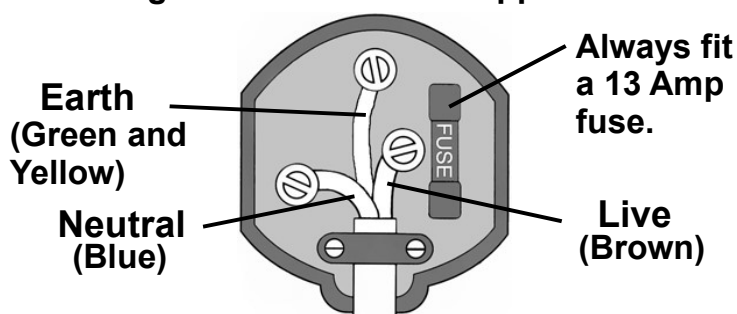


WARNING! THE WIRES IN THE POWER CABLE OF THIS PRODUCT ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE: BLUE = NEUTRAL BROWN = LIVE YELLOW AND GREEN = EARTH

If the colours of the wires in the power cable do not agree with the markings on the plug:

- Connect the **blue** wire to the terminal marked **N**.
- Connect the **brown** wire to the terminal marked **L**.
- Connect the **yellow and green** wire to the terminal marked E or

Plug must be BS1363/A approved.



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

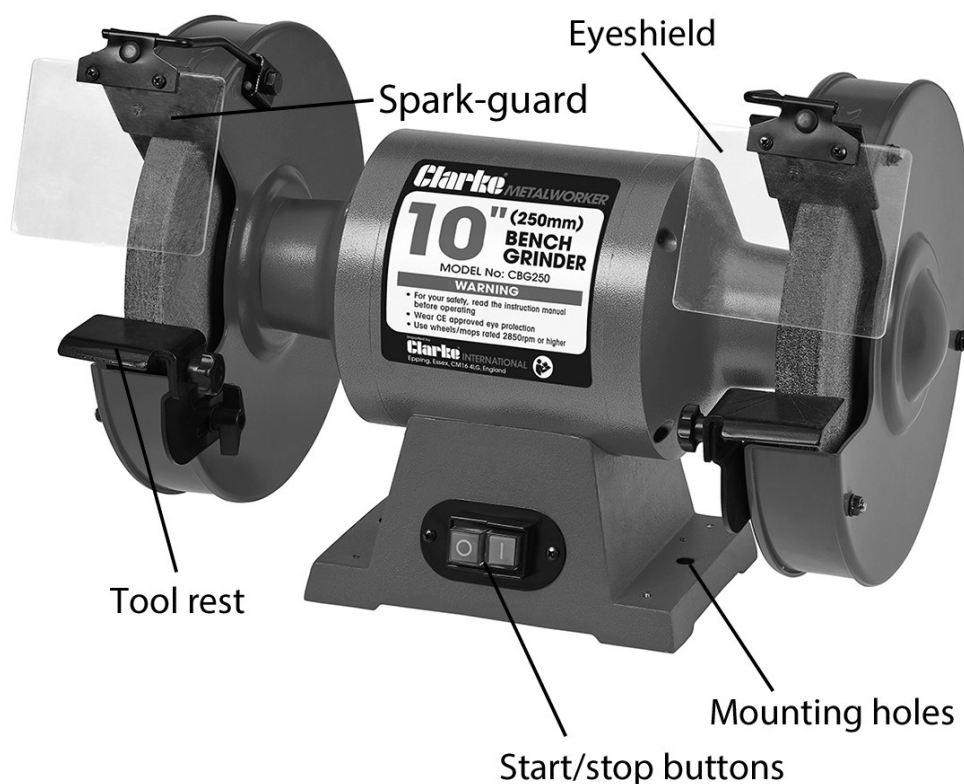
We strongly recommend that this machine is connected to the mains supply through a Residual Current Device (RCD)

If you are not sure, consult a qualified electrician. DO NOT try to do any repairs.

EXTENSION CABLES

Always use an approved cable extension suitable for the power rating of this machine. The conductor size should also be at least the same size as that on the machine, or larger and should have an earth conductor.

OVERVIEW



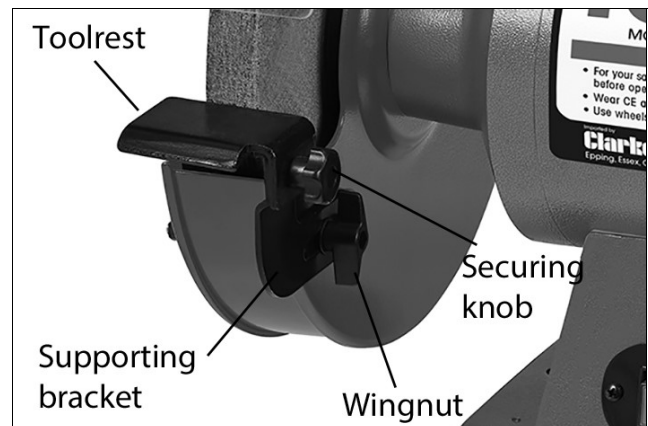
The following items should be supplied with the bench grinder. If any items are missing or damaged, please contact the CLARKE dealer where you purchased the product.

- **Two eye shield assemblies** (each with keep plate, bolt & flat washer)
- **Two spark guards** (each with 2 x screws & flat washers)
- **Two tool rests** (each with supporting arm, finger knob, wing nut, coach-bolt & flat washer)
- Coarse wheel (fitted)
- Medium wheel (fitted)

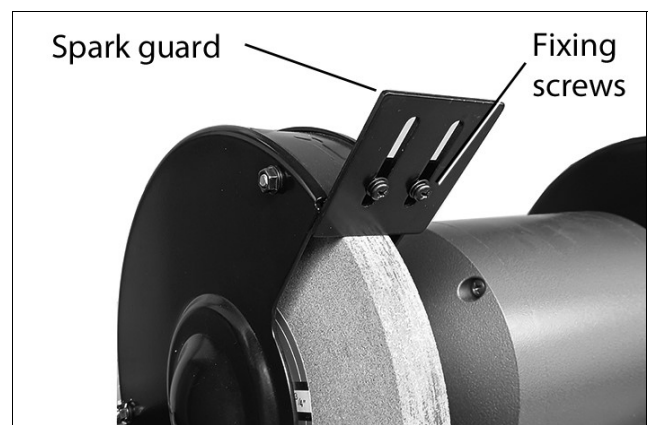
ASSEMBLY

1. Assemble the tool rests with the locking knobs, short coach bolts and small washers provided.
2. Install the tool-rests to the machine by screwing the wingnuts (with large washers) through the adjusting brackets as shown.

- The tool rests are adjustable and should be positioned 2.5mm (1/8") from the grinding wheels. Ensure that the tool rest is firmly fixed and horizontal.
- As the wheel wears down with use, it will be necessary to re-position the toolrest brackets in order to maintain a gap between the rest and the grinding wheel.



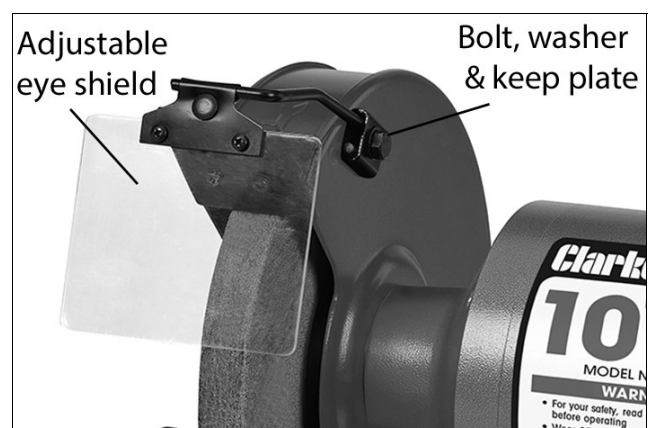
3. Install the spark guards to the machine frame using the x-head screws and small washers supplied as shown. Adjust their position as close to the grinding wheel as possible.



4. Install the eye shields onto the machine using the keep plates, bolts and washers supplied as shown.

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

IMPORTANT: We recommend that your bench grinder is secured to your workbench before operation, using the pre-drilled holes in the base. DO NOT over-tighten the mounting bolts as this could damage the base. Position the machine in good light.



USING YOUR BENCH GRINDER



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 WHEEL WILL CONTINUE TO ROTATE BRIEFLY AFTER THE OFF SWITCH HAS BEEN PRESSED.

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 ADJUSTMENT

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

The 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 mounting screws and moving the tool rest to within 1.6mm (1/16") 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 thumbscrews once adjustment is complete.

MAINTENANCE

GENERAL MAINTENANCE

Make sure 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 regular 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, dependent 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



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

To renew or change the grinding wheels, proceed as follows

1. Switch off and un-plug from power supply. Remove the outer covers, left or right, by removing the three cover retaining screws.
2. 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**.
3. Take off the used wheel and replace with the new one, ensuring:
 - the paper label/blotters are in place either side of the wheel.
 - that there is a good balanced rotation of the grinding wheel
 - you do not over-tighten the wheel nut.
4. Re-fit covers, left or right, by using the three cover retaining screws.
5. Re-adjust the tool rest and spark arrester brackets if required.
6. Switch the machine on and allow it to rotate freely for at least one minute.

Replacement grinding stones are available from your CLARKE dealer.

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 Traditional Grinding Wheel Dresser - Part No:1700225
 - 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.

Replacement 250mm grinding wheels are available:

- Coarse - part no 6500097
- Medium - part no 6500096
- Fine - part no 6500094

ENVIRONMENTAL PROTECTION



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.

DECLARATIONS OF CONFORMITY



Fitzwilliam Hall, Fitzwilliam Place, Dublin 2

DECLARATION OF CONFORMITY

This is an important document and should be retained.

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

2014/30/EU Electromagnetic Compatibility Directive
2006/42/EC Machinery Directive
2011/65/EU Restriction of Hazardous Substances (RoHS) Directive

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

EN 62841-3-4:2016+A11:2017+A12:2020+A1:2020, EN IEC 55014-1:2021, EN IEC 55014-2:2021,
EN 61000-3-3:2013+A1:2019+A2:2021, EN IEC 61000-3-2:2019+A1:2021, BS EN IEC 62321-2:2021,
EN 62321-7-1:2015, EN 62321-7-2:2017, EN 62321-5:2014, EN 62321-6:2015, EN 62321-3-1:2014,
EN 62841-1:2015+A11:2022, EN 62321-4:2014/A1:2017, EN 62321-1:2013, EN 62321-8:2017

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

The CE mark was first applied in: 2024

Product Description: Bench Grinder
Model Number(s): CBG250
Serial/Batch Number: Refer to product/packaging label
Date of issue: 27/11/2024

Signed:

J.A. Clarke
Director

CBG250 CE Clarke DOC 112724

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Hemndill 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 legislation:

The Electromagnetic Compatibility Regulations 2016
The Supply of Machinery (Safety) Regulations 2008
The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

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

EN 62841-3-4:2016+A11:2017+A12:2020+A1:2020, EN IEC 55014-1:2021, EN IEC 55014-2:2021,
EN 61000-3-3:2013+A1:2019+A2:2021, EN IEC 61000-3-2:2019+A1:2021, BS EN IEC 62321-2:2021,
EN 62321-7-1:2015, EN 62321-7-2:2017, EN 62321-5:2014, EN 62321-6:2015, EN 62321-3-1:2014,
EN 62841-1:2015+A11:2022, EN 62321-4:2014/A1:2017, EN 62321-1:2013, EN 62321-8:2017

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

The UKCA mark was first applied in: 2024

Product Description: Bench Grinder
Model Number(s): CBG250
Serial/Batch Number: Refer to product/packaging label
Date of issue: 27/11/2024

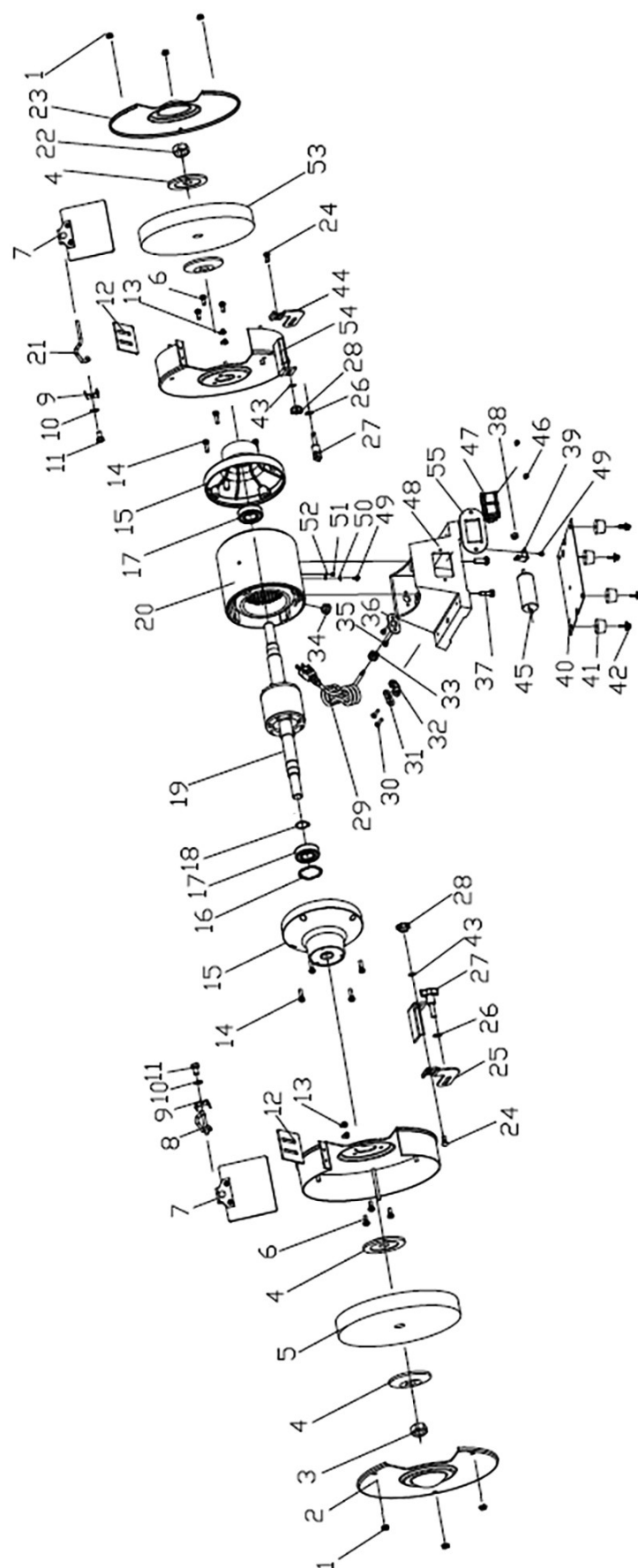
Signed:

J.A. Clarke
Director

CBG250 UKCA Clarke DOC 112724

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COMPONENT PARTS



COMPONENT PARTS

No	Description
1	Hex nut
2	Left wheel cover
3	Nut
4	Retaining disc
5	Grinding wheel
6	Philips screw/spring washer
7	Eyeshield assembly
8	Left eye-shield support
9	Eyeshield bracket
10	Flat washer
11	Hex bolt
12	Spark deflector
13	Philips screw/spring & flat washer
14	Philips screw/spring washer
15	End cap
16	Wave spring
17	Bearing
18	Retaining ring
19	Motor rotor
20	Motor stator
21	Right eye-shield support
22	Nut
23	Right wheel guard cover
24	Bolt
25	Left fixed work rest
26	Flat washer
27	Lock knob
28	Lock nut knob

No	Description
29	Power cable
30	Philips screw
31	Cable gland
32	Cable clamp
33	Cable clamp
34	Cable gland
35	Philips screw
36	Cable clamp
37	Hex bolt /spring washer
38	Nut
39	Capacitor support
40	Cover plate
41	Rubber foot
42	Philips screw/washer
43	Flat washer
44	Right fixed worktable
45	Capacitor
46	Philips screw
47	Switch
48	Base
49	Screw/spring washer/flat washer
50	Tooth washer
51	Pin
52	Earthing plate
53	Grinding wheel
54	Right movable work table
55	Switch panel

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PARTS & SERVICE:

0208 988 7400

Parts Enquiries
Parts@clarkeinternational.com

Servicing & Technical Enquiries
Service@clarkeinternational.com

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

Clarke® INTERNATIONAL Hemnall Street, Epping, Essex CM16 4LG
www.clarkeinternational.com