Clarke®

4½” (115mm) ANGLE GRINDER

Model No. CAG115C

OPERATING & MAINTENANCE INSTRUCTIONS

0398

Thank you for selecting this CLARKE 115mm (4½") Angle Grinder, designed for DIY and light workshop use only.
Before attempting to use the tool, please read this leaflet 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 the Angle Grinder 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 therefore, 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.

CONTENTS

SAFETY PRECAUTIONS

GENERAL SAFETY PRECAUTIONS FOR POWER TOOLS

WARNING:

As with all machinery, there are certain hazards involved with their operation and use. Exercising respect and caution will considerably lessen the risk of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator or damage to property, may result.

1. READ and BECOME FAMILIAR with the entire operating manual. Learn the tools' applications, limitations and the specific potential hazards peculiar to it.

2. ALWAYS ensure that ADEQUATE LIGHTING is available. A minimum intensity of 300 lux should be provided. Ensure that lighting is placed so that you will not be working in your own shadow.
3. CHECK for DAMAGE. Before using the tool, any damaged part should be checked 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 tools' operation. Any damage should be properly repaired or the part replaced. If in doubt, DO NOT USE the tool. Consult your local dealer.
4. DISCONNECT the TOOL from the power supply before servicing and when changing accessories.
5. ALWAYS WEAR SAFETY GOGGLES manufactured to the latest European Safety Standards. Everyday eyeglasses do not have impact resistant lenses, they are NOT safety glasses.
6. KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.
7. DON'T FORCE the tool. It will do a better and safer job at the rate for which it was designed.
8. ALWAYS use a face or dust mask if operation is particularly dusty.
9. DRUGS, ALCOHOL, MEDICATION. Do not operate tool while under the influence of drugs, alcohol or any medication.
10. USE RECOMMENDED ACCESSORIES. The use of improper accessories could be hazardous.
11. NEVER LEAVE THE TOOL RUNNING UNATTENDED. Turn power OFF. Do not leave the tool until it comes to a complete stop.
12. AVOID DANGEROUS ENVIRONMENT. Don't use power tools in damp or wet locations or expose them to rain. Keep your work area well illuminated. DO NOT USE in explosive atmosphere (around paint, flammable liquids etc.).
13. KEEP CHILDREN AWAY. All visitors should be kept a safe distance from the work area, especially whilst operating the tool.
14. MAINTAIN TOOL IN TOP CONDITION. Keep tools clean for the best and safest performance. Follow maintenance instructions.
15. DON'T OVERREACH. Keep your proper footing/balance at all times. For best footing wear rubber soled footwear. Keep floor clear of oil, scrap wood, etc.
16. WEAR PROPER APPAREL. Loose clothing or jewellery may get caught in moving parts. Wear protective hair covering to contain long hair.
17. HANDLE WITH EXTREME CARE Do Not carry the tool by its' electric cable, or yank the cable to disconnect it from the power supply .
18. AVOID ACCIDENTAL STARTING. Ensure the switch is OFF before plugging in to mains.
19. BE AWARE that accidents are caused by carelessness due to familiarity. ALWAYS concentrate on the job in hand, no matter how trivial it may seem.

ADDITIONAL PRECAUTIONS FOR ANGLE GRINDERS

1. It is strongly advised that you wear ear protectors/defenders as the noise level during operation, depending upon the work being carried out, can exceed safe working levels.
2. Always wear a good pair of industrial gloves to avoid potential injury from sparks and debris.
3. Do not use the tool if the electric cable, plug or motor is in poor condition.
4. Keep the mains cable well away from the tool and ensure an adequate electrical supply is close at hand so that the operation is not restricted by the length of the cable.
5. Switch the tool OFF immediately the task is completed.
6. Never allow the ventilation slots in the tool to become blocked.
7. Do not attempt any electrical repair yourself. Consult a qualified electrician, or our Service Dep't on 0181 556 4443.
8. DO NOT cut through walls or cavities before checking for hidden electrical wires or water pipes etc.
9. Ensure the grinding wheel or cutting disc is fully tightened before use.
10. Do not use the tool in a confined space which may limit body movement.
11. Ensure the wheel/disc is not touching the work when switching ON.
12. Use only wheels/discs having a maximum operating speed of at least 11,000RPM.
13. Check the disk carefully for cracks or damage before operation. Replace cracked or damaged wheels/discs immediately.
14. Take care not to damage the spindle or wheel flanges as damage to these parts could result in wheel/disc breakage.
15. ALWAYS hold the tool firmly in BOTH hands.
16. Before using the tool on an actual workpiece, allow it to run briefly, checking for vibration which could indicate poor balance or installation of the wheel/disc.
17. Use only wheels/discs designed for their specific function. DO NOT use cutting discs for grinding metal, or metal grinding wheels for cutting masonry.
18. Beware of flying sparks, hold the grinder at an angle of 15 - 30^{O} to the workpiece surface.
19. NEVER use excessive force. It should only be necessary to use a little more than the weight of the tool. If the rotational speed drops abnormally, reduce pressure immediately. Forcing the tool and excessive pressure can cause dangerous disc breakage and/or damage to the tool.
20. NEVER use the tool with the guard removed. If the guard becomes damaged, it should be replaced

Additionally, ALWAYS 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.

IMPORTANT:
This appliance is of Double Insulation construction ⧈ and no earth conductor is therefore provided. The two wires in the mains lead should be wired up 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 dealer or most electrical stockists.

FUSE RATING

The fuse in the plug must be replaced with one of the same rating (**13 amps**) and this replacement must be approved to BS1362.

If in doubt, consult a qualified electrician. Do not attempt any electrical repairs yourself.

CABLE EXTENSION.

Do not use an extension longer than 10 metres and one where the conductors, are less than 1.5mm^2.

FEATURES (Ref. Fig 1 page 6)

1. Safety ON/OFF Switch

To operate the safety ON/OFF switch, press down on the 'I' mark (ON), and slide the switch forward until it clicks and locks into place. To release the switch (Switch OFF), press down on the 'O' (OFF) mark and the switch will snap back to the OFF position.

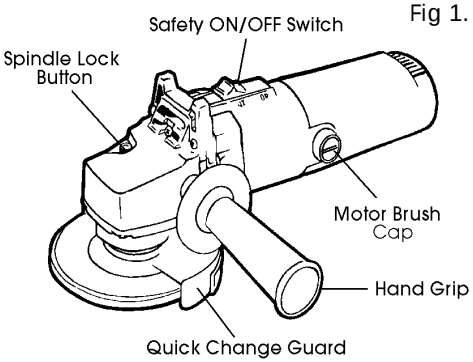
2. Spindle Lock Button.

When pressed, this button, located on top of the head, is used to lock the spindle when attempting to unscrew and remove the outer flange (using the special tool provided), in order to mount or change the grinding wheel or cutting disc.

WARNING:
NEVER press the spindle lock button when starting the tool, and NEVER press the button when the tool is operating.
DO NOT press button until the wheel/disc has stopped completely

3. Quick Change Guard.

Fig 1.



The guard is capable of rotating about its axis. Grasp it firmly and turn to the desired position **before** connecting the tool to the mains supply and switching ON.

You should always turn the guard so as to provide the greatest amount of protection for the hand gripping the hand grip, without impeding the work being carried out.

ASSEMBLY

1. Mounting the Grinding Wheel/Cutting Disc.

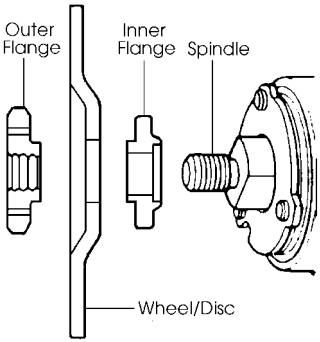


Fig 2.

1.1 Unscrew and remove the outer flange. If it is tight, lock the spindle by pressing the Spindle Lock button and use the tool supplied to turn the flange to break the seal. It may then be screwed off by hand.

1.2 The Grinding wheel supplied is a Depressed Centre' type. Mount it as shown in the diagram. i.e. with the depressed centre towards the motor,

1.3 Ensuring the wheel sits snugly over the raised boss on the inner flange, screw on the outer flange with the centre boss facing inwards. Tighten the flange using the tool provided, locking the spindle by pressing the Spindle Lock button, and taking care to ensure the wheel is still sitting snugly, centred over the flange bosses. Care should be taken also NOT to overtighten the outer flange.

IMPORTANT:
Fig . 2 shows the set up for a grinding wheel.
When attaching a cutting disk, YOU MUST REVERSE the Outer flange.

2. Hand Grip

A threaded hole, on the left or right hand side of the gear housing, is provided so that the hand grip may be screwed in, as required, to provide left or right hand control of the tool.

OPERATION

IMPORTANT: DO NOT plug the tool in to the mains, unless you have ensured it is switched OFF and the guard is set to the desired position.

The hand holding the body will control the ON/OFF switch, whilst the other hand grasps the hand grip and guides the tool over the workpiece.

Hold the tool firmly but not tightly. Allow the tool to do the work...DO NOT force the wheel on to the workpiece.

MAINTENANCE

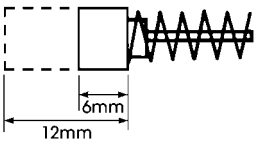
IMPORTANT: Before carrying out any maintenance tasks, ALWAYS disconnect the tool from the mains electrical supply.

Before Each Use

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 tool where possible. (Always wear protective goggles when cleaning with compressed air).
3. Check the power cable to ensure it is sound and free from cracks, bare wires etc.
4. Ensure the grinding wheel or cutting disc is perfectly sound, free from cracks or damage in any way.

After every 50 hours of use.

Unscrew Carbon Brush Caps, withdraw the Carbon Brushes and check their condition. They must be replaced when they have worn down to 6mm in length. If they are found to be serviceable, blow the brush holder clean with compressed air, and replace.



SPECIFICATIONS

Motor	230V~ 50Hz 1ph
Power Rating	720Watts
Fuse Rating	13Amps
No Load Speed	11,000RPM
Wheel/Disc Dia.	115mm
Bore	22mm
Weight (Net)	2.3kg
Part No.	6470130

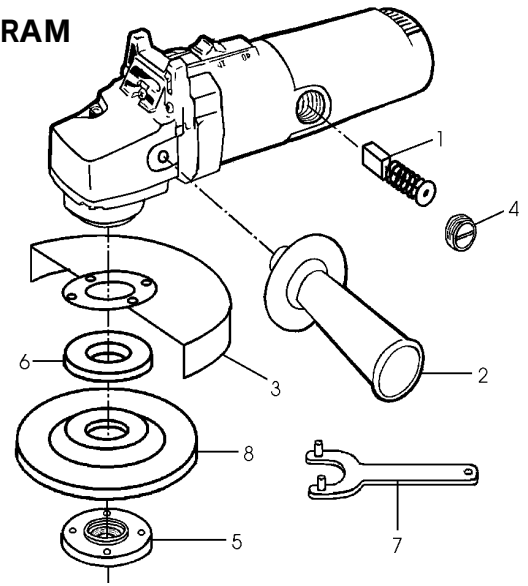
TROUBLESHOOTING

Problem	Possible Cause	Remedy
Tool will not operate	1. No Supply	1. Check Supply and rectify where necessary.
	2. Switch is faulty	2. Consult your Clarke dealer
	3. Brushes badly worn	3. Check and replace if necessary
	4. Fuse blown	4. Check and replace if necessary. If condition persists, consult your dealer
	5. Motor faulty	5. Consult your Clarke dealer.
Motor runs but disc will not	1. Flange nut not tight	1. Tighten flange nut
	2. Gear shaft or key broken	2. Consult your Clarke dealer
Heavy internal Sparking	1. Faulty motor	1. Consult your Clarke dealer
	2. Badly worn Brushes	2. Renew brushes (see p.7)
Motor gets hot	1. Work load too heavy	1. Reduce force applied to tool
	2. Low supply voltage	2. Ensure supply voltage is correct. If extension cable is used, ensure it is of the correct value, and is fully unreeled
Excessive vibration	1. Wheel not mounted correctly	1. Check and rectify
	2. Bearings worn	2. Consult your Clarke dealer

Clarke® INTERNATIONAL

This product conforms with the following directives:
73/23/EEC and 89/336/EEC

PARTS DIAGRAM



SPARE PARTS

1.	Brush Set	Part No.	HTSPAG0055
2.	Hand Grip		HTSPAG0050
3.	Guard		HTSPAG0070
4.	Brush Cap		HTSPAG0056
5.	Outer Flange		HTSPAG0058
6.	Inner Flange		HTSPAG0057
7.	Flange Tool		HTSPAG0059
8.	Grinding Wheel/Cutting Disc	(See below)	

The following Grinding Wheels/ Cutting Discs are available from your Clarke dealer.

1.	Metal Grinding (DPC) 115mm x 6mm thickness	Part No.	6470705
2.	Metal Cutting (DPC) 115mm x 3mm thickness		6470775
3.	Masonry Cutting (DPC) 115mm x 3mm thickness		6470735

For Spare Parts and Servicing, please contact your nearest dealer, or CLARKE International, on one of the following numbers.

PARTS - 0181 558 6696 SERVICE - 0181 556 4443

PARTS & SERVICE FAX - 0181 558 3622