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Clarke[®]

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From DIY to industrial. Plus air tools, spray guns and accessories.

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Prime duty or emergency standby for business, home and leisure.

POWER WASHERS

Hot and cold, electric and engine driven - we have what you need.

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Mig, Arc, Tig and Spot. From DIY to auto/industrial.

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Drills, grinders and saws for DIY and professional use.

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Saws, sanders, lathes, mortisers and dust extraction.

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Cranes, body repair kits, transmission jacks for all types of workshop use.

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Submersible, electric and engine driven for DIY, agriculture and industry.

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Angle grinders, cordless drill sets, saws and sanders.

STARTER/CHARGERS

All sizes for car & commercial use.



Clarke[®]

Start·N·charge



12V BATTERY BOOSTER / CHARGER

MODEL Nos. BC130

Clarke INTERNATIONAL

For spare parts and servicing, please contact your nearest dealer, or Clarke International on

020 - 8988 - 7400

e-mail: Parts@clarkeinternational.com e-mail: Service@clarkeinternational.com



OPERATING INSTRUCTIONS



SPECIFICATIONS

MAX CHARGE	15 Amps
MAX BOOST	120 Amps
BOOST START DUTY CYCLE	Max 3 secs ON 30 secs OFF
THERMAL OVERLOAD PROTECTION	YES
DIMENSIONS (LxWxH) mm.	280x175x280
WEIGHT kg.	7kg
PART NO.	6210130

This battery charger is designed to charge 12V lead-acid automotive batteries. Do not attempt to recharge any other type of battery. Do not use the battery charger as a power source.

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

PARTS & SERVICE TEL: 020 8988 7400

PARTS & SERVICE FAX: 020 8558 3622

or e-mail as follows:

PARTS: Parts@clarkeinternational.com

SERVICE: Service@clarkeinternational.com

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Thank you for purchasing this CLARKE Battery Charger.

These units are designed for charging 12 Volt, lead acid batteries and for providing a boost start in the event of a flat battery

Before attempting to operate the charger, please read this instruction manual thoroughly, and follow all directions carefully. By doing so you will ensure the safety of yourself, and others around you, and at the same time, you should look forward to the unit giving long and trouble free service.

GUARANTEE

This product is guaranteed against faults in manufacture for 12 months from date of purchase. Please keep your receipt as proof of purchase.

This guarantee is invalid if the product has been found to have been abused in any way, or not used for the purpose for which it was intended, or to have been tampered with in any way. The reason for return must be clearly stated.

This guarantee does not affect your statutory rights.

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IMPORTANT: SAFETY PRECAUTIONS

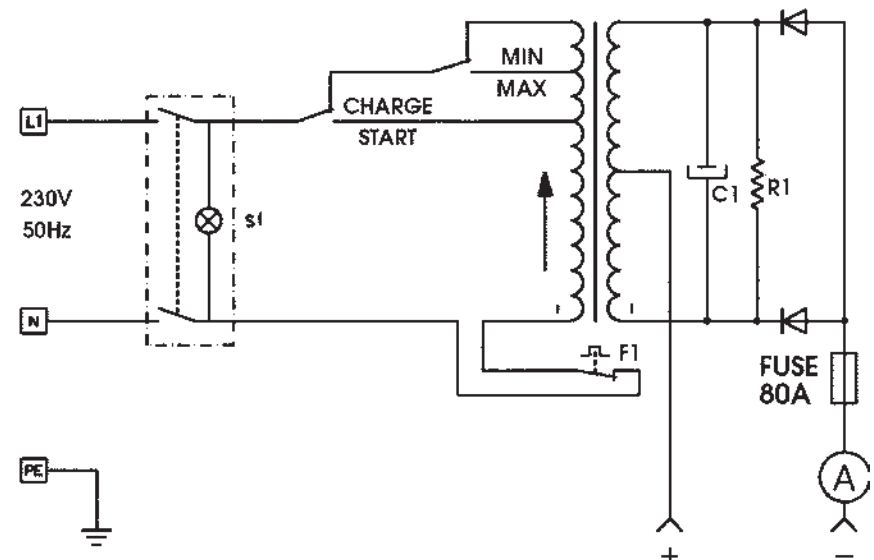
PLEASE READ BEFORE USING THIS UNIT

- WARNING:** Some electronic equipment can be damaged by boost charging or use of start facility. Check your vehicle handbook before using your Start 'N' Charge. If in doubt consult the vehicle manufacturer.
Nevertheless, you should not operate this equipment unless you are fully conversant with vehicle electrical systems, and battery charging techniques.
- WARNING:** Because highly inflammable hydrogen gas is released in the process of battery charging, please remember to switch OFF the charger first, and so avoid sparking which will occur when CONNECTING OR DISCONNECTING LIVE LEADS.
- Black negative (-ve) lead must always be clipped to the negative, and Red positive (+ve) lead must always be clipped to the positive.
When charging with battery installed in vehicle, or boosting, **FIRST** connect the appropriate lead to the **UNEARTHED** battery terminal (on most modern cars this is the positive (+ve) terminal), then connect the other lead to the chassis (or a suitable engine bolt) away from the battery and fuel line. It is advisable to disconnect the unearthed terminal from the battery, when charging in situ.
When disconnecting, remove the chassis lead **FIRST**, then the battery lead.
- To prevent battery overheating and consequent damage, use the BOOST facility sparingly and do not exceed our recommendations.
- Battery acid is highly corrosive. If spillage occurs, wipe off immediately and wash copiously with water. Particularly avoid contact with the eyes, but if this occurs, you must seek medical advice.
- When charging is completed, ensure that the vehicle battery leads are secured to the proper terminals which should be clean and lightly smeared with petroleum jelly to prevent corrosion. Finally, re-check the electrolyte level.
- Do not expose this unit to rain.
- Never touch together the negative and positive leads on this unit whilst the unit is switched on.
- Never attempt any electrical or mechanical repair. If you have a problem with your machine contact your local stockist for service information.
- WARNING:** Certain types of sealed or maintenance-free batteries need extra care when charging. Please consult battery manufacturers instructions before using this unit.
- WARNING:** Since toxic fumes may be released during battery charging, **ONLY USE THIS UNIT IN A WELL VENTILATED AREA.**
- Before charging ensure the battery terminals are clean and that the cells are filled with electrolyte to the correct level by adding distilled water where necessary.

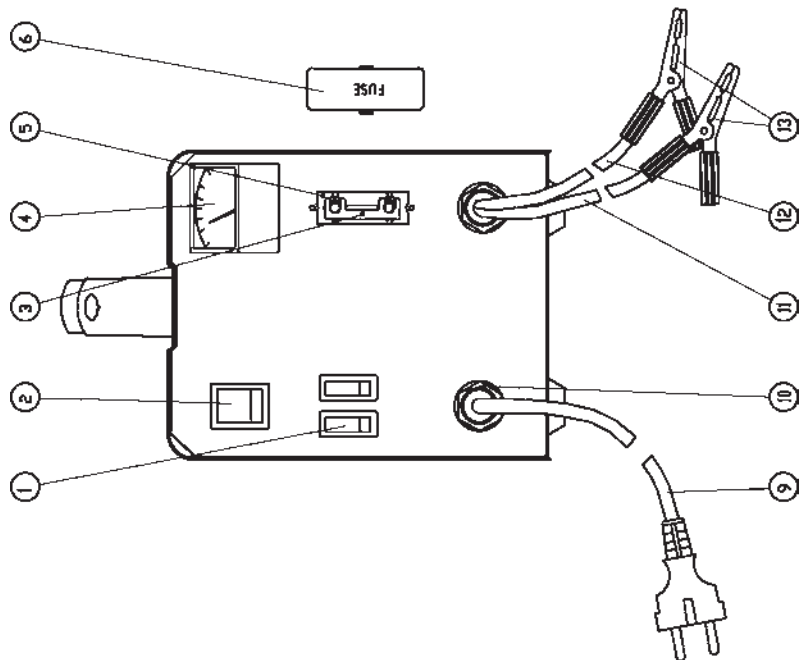
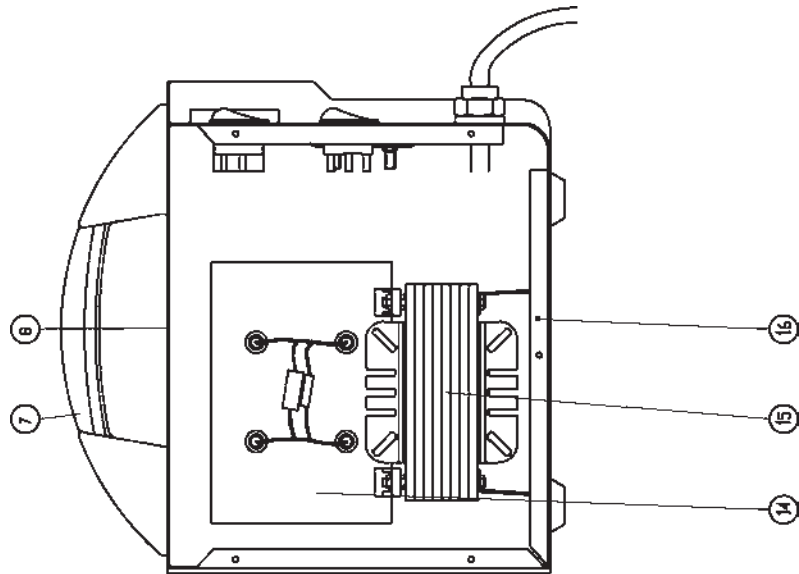
PARTS LIST

No.	Description	Part No.
1	Welding Current Switch	EN22200006
2	On/Off Switch	EN22200002
3	Fuse	EN22220044
4	Ammeter	EN22600026
5	Fuse Holder Box	EN21690333
6	Box Cover	EN21690334
7	Bent Handle	EN21600036
8	Upper Panel	EN33705290
9	Input Cable	EN20220067
10	Cable Clamp	EN21605032
11	Black Cable	EN43200031
12	Red Cable	EN43200032
13	Clamp	EN22110003
14	Rectifier	EN22400042
15	Transformer	EN44105060
16	Lower Panel	EN33700201

WIRING DIAGRAM



PARTS LIST AND DIAGRAM



ELECTRICAL CONNECTIONS

WARNING! THIS APPLIANCE MUST BE EARTHED.

Connect the mains lead to a 230 volt (50Hz) domestic electrical supply via a standard 13 amp BS 1363 plug fitted with a 13 amp fuse, or a suitably fused isolator switch.

IMPORTANT: The wires in the mains lead are coloured in accordance with the following code:

Green & Yellow	-	Earth
Blue	-	Neutral
Brown	-	Live

As the colours of the flexible cord of this appliance may not correspond with the coloured markings identifying terminals in your plug, proceed as follows:

- Connect GREEN & YELLOW coloured cord to plug terminal marked with a letter 'E' or Earth symbol \perp , or coloured GREEN or GREEN & YELLOW.
- Connect BROWN coloured cord to plug terminal marked 'L' or coloured RED.
- Connect BLUE coloured cord to plug terminal marked 'N' or coloured BLACK.

We strongly recommend that this unit is connected to the mains supply via a Residual Current Device (RCD).

IMPORTANT!

If this appliance is fitted with a plug which is moulded onto 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

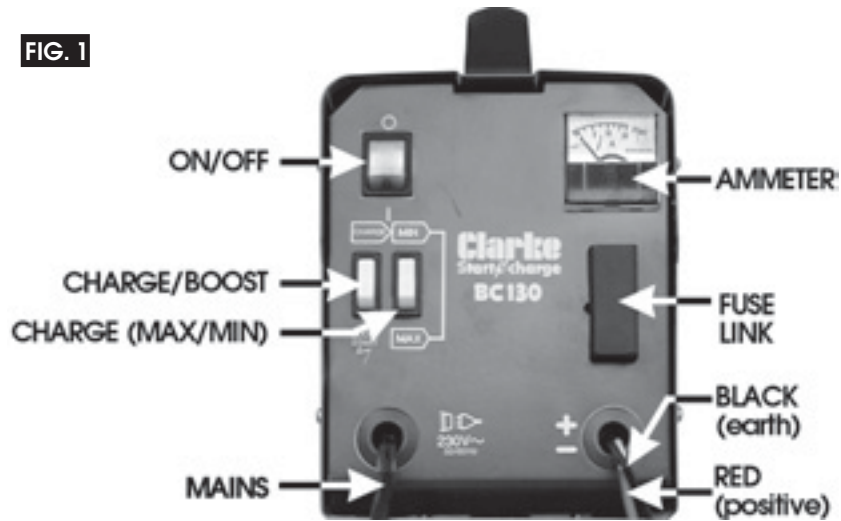
The fuse in the plug must be replaced with one of the same rating (**13 amps**) and this replacement must be ASTA approved to BS1362.

Extension Cable

If an extension cable is fitted, ensure the minimum cross section of the conductor is 1.5mm² for up to 15 metres in length, and 2.5mm² for up to 25 metres.

PARTS IDENTIFICATION

FIG. 1



PROCEDURE FOR NORMAL CHARGING

- 1) Before charging, if the battery is non-sealed, ensure that the battery cells are filled with electrolyte to the correct level by adding distilled water where necessary.
- 2) We recommend that the **non-earthed lead** on the battery is disconnected prior to charging. It is possible that damage may occur to any electronically controlled system fitted to the vehicle such as engine management, anti-theft alarm, alternator etc.
- 3) Check that the ON/OFF switch on the unit is in the OFF (O) position.
- 4) Connect the appropriate lead to the unearthed battery terminal (on most modern cars this is positive (+ve) terminal), then connect the other lead to the chassis (or a suitable engine bolt) away from the battery and fuel line.
- 5) Remove the battery filler caps (where possible) during charging in order to prevent the build up of dangerous gases within the battery.
- 6) Set the CHARGE/BOOST START switch to the 'CHARGE' position.
- 7) Set the MIN/MAX (minimum charge/maximum charge) switch to the MIN position. This is suitable for charging most normal car batteries (having a rating of approximately 40 AH).
- 8) Switch the ON/OFF switch to ON (I), and charging will commence.
- 9) Keep the battery on charge until the Ammeter gauge reads zero (or 0-2 amps) or has stopped moving down. Then switch OFF at the machine.
- 10) When disconnecting the charger, disconnect **1.** supply, **2.** chassis conductor and **3.** battery conductor, **IN THAT ORDER.**

Important:

If the fixed positive lead and the fixed negative lead are connected to the wrong terminals, then a flash will occur when the 2nd clamp is attached. Damage to the charging unit and the battery will be avoided as your start 'n charge is fitted with a polarity protection device. It will however be necessary to replace the fuse. Remove the black plastic cover on the front panel (see Fig. 1) and replace the burnt fuse with an exact replacement. (See parts list)

Notes on charging procedure.

- * A complete charge is best done slowly in order to protect your battery, so we recommend the MIN setting as described above. A complete charge may take up to 10 hours.
- ** If a low amperage reading (2 amps or less) is seen on the gauge at either the MIN or MAX setting, this may indicate that the battery is either (a) already fully charged or (b) at the end of its useful life and in need of replacement. Do not charge the battery for longer than is necessary.

WARNING: Do not attempt to re-charge non-rechargeable batteries.

PROCEDURE FOR ENGINE STARTING

Note: We recommend that before attempting to boost start, you charge the battery for 10-15 minutes. This will improve the chance of a first time start, particularly with bigger engines. When the battery is completely flat, you must charge the battery for 10-15 minutes before attempting to start, otherwise you may cause damage to the vehicle electronic systems.

- a) Check that the ON/OFF switch is in the OFF (O) position.
- b) Connect the cables as for normal charging.
- c) Check that the CHARGE/BOOST START switch is in the BOOST START position.
- d) Switch the ON/OFF switch to the ON (I) position.
- e) Turn the key in the vehicles ignition to 'start', and get an assistant to switch the CHARGE/ BOOST START switch to CHARGE position **IMMEDIATELY** the engine starts, or after a **maximum of 3 seconds** if the engine fails to start. Failure to do this may cause damage to some electronic equipment. Wait for at least **30 secs** before trying again.

IMPORTANT: You must return the CHARGE/BOOST START switch to CHARGE position after a maximum of 3 seconds on boost start. Wait 30 seconds before repeating. Failure to do this may damage the battery and the Start 'N' Charge unit and may invalidate your guarantee.

NOTE: If the Start and Charge unit is overloaded at any time, a thermal cut out will automatically come into operation, rendering it inoperative. It will take approximately 15-20 minutes to cool down sufficiently for it to be used again (depending upon ambient conditions)