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Clarke®

POWER



GENERATOR SET

CP/CD Range

USER INSTRUCTIONS



PLEASE NOTE:

THIS RANGE OF GENERATORS IS DESIGNED TO RUN ON EITHER PETROL, DIESEL, WHERE APPROPRIATE, OR PROPANE GAS.

A GAS CONVERSION KIT IS AVAILABLE FROM YOUR CLARKE DEALER

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.

NOTES

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Thank you for purchasing this CLARKE portable generator set.

Please read through this instruction leaflet, and the instruction manuals for the engine and alternator thoroughly before operating the generator, in doing so you will ensure the safety of yourself and that of others around you, this will also ensure that the portable generator set will give you long and satisfactory service.

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

CLARKE GUARANTEE

This CLARKE product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt 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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Parts List, Specifications & Schematic Wiring Diagrams can be found on the technical information sheet.

IMPORTANT SAFETY PRECAUTIONS

- **NEVER** allow anyone, not fully familiar with generator sets to use this equipment.
- This generator set is NOT suitable for use with electronic equipment such as televisions, hi-fi's or computers etc.
- **IMPORTANT!: This generator uses either a floating chassis or neutral reference to chassis earthing system. (refer to technical information sheet).**

Neutral reference to chassis generators MUST be connected to an earthing spike to ensure they are properly grounded.

Floating earth generators DO NOT require earthing.

- Connect only those appliances that are in good working order.
- **NOTE:** Most portable electric tools are Class II (double insulated) appliances. Always check BEFORE connecting. Equipment that does not meet this standard (i.e. tools with metal casing) require a three conductor cable with an earth conductor.
- **DO NOT** Alter the engine settings, the voltage and frequency of the generator output is directly linked to the engine speed. These settings are factory set. Should they need re-calibration - consult your CLARKE dealer.
- Connect only those appliances whose voltage (according to their data plate) corresponds to that produced by the generator.

GENERAL SAFETY PRECAUTIONS

- **ALWAYS** use in a well ventilated area.
- **ALWAYS** ensure the applied load does not exceed the generators rating. Overloading the generator is dangerous and could cause serious damage.
- **ALWAYS** disconnect the generator when carrying out any maintenance.
- **ALWAYS** ensure the generator reaches operating speed before connecting a load.
- **ALWAYS** start the engine BEFORE connecting any appliances to the output receptacles.
- **ALWAYS** check the generator for damage before use.
- **ALWAYS** keep well clear of all moving parts on the generator at all times.
- **NEVER** allow children or animals near the generator.
- **NEVER** connect to a commercial or mains power supply, or any other electrical source.
- **NEVER** allow the generator to run out of fuel when a load is connected.
- **NEVER** alter or tamper with the internal wiring of the generator.
- **NEVER** climb or stand on the generator as dents may cause overheating of the acoustic lining.
- **NEVER** touch any part of the engine, alternator or exhaust when the generator is in use as these get hot and could burn.

SHUTTING DOWN THE GENERATOR

IMPORTANT! Never switch OFF the engine whilst an electrical appliance is connected.

1. Switch OFF the electrical appliance.
2. Unplug the appliance from the generator.
3. Switch the engine OFF (refer to engine manual).
4. Turn the fuel OFF (refer to engine manual, long run models refer to page 6).

MAINTENANCE

Always ensure the generators air vents are completely clear. Brush away any dust which may have accumulated.

The engine requires periodic servicing. Please refer to the engine manual for details.

If the generator is not going to be used for some time, the engine must be adequately prepared. Please refer to the engine manual for details.

ELECTRICAL TROUBLE SHOOTING

PROBLEM: No AC Output.

CAUSE:	TROUBLE SHOOTING:
Selector switch in wrong position.	Set selector switch.
Tripped circuit breaker.	Reset AC safety trip.
Poor connection or faulty lead.	Check connection and/or replace lead.
Broken AC connector.	Contact CLARKE servicing.
Faulty circuit breaker.	Contact CLARKE servicing.

PROBLEM: Erratic Supply.

CAUSE:	TROUBLE SHOOTING:
Incorrect engine RPM.	Set engine RPM - Consult your CLARKE dealer.
Internal alternator problem.	Contact CLARKE servicing.

ENGINE TROUBLE SHOOTING

Consult the engine manual.

OPERATION

IMPORTANT! Ensure all precautions are taken, referring to this and the engine manual, before proceeding.

1. Start the engine. (refer to engine manual) and allow to run for a few minutes at full speed in order for it to warm up.

IMPORTANT! Ensure no appliances are connected to the generator when starting the engine.

2. Check the condition of the appliance, including the supply cable and the extension cable if used, and ensure it is switched OFF. Ensure also that the operating voltage is the same as the output from the generator.
3. For generators with dual output, ensure the voltage selector switch is set to deliver the appropriate output - 115V or 230V, see fig's 2 & 3.
Depending on the model the switch is mounted as shown or similar, to that in fig's 2, 3 & 4a/b.



Fig.2



Fig.3



Fig.4a



Fig.4b

4. With the engine running smoothly connect the appliance to the appropriate receptacle: BLUE - 230V, YELLOW - 115V.

NOTE: If the AC circuit is overloaded the circuit protection switch will trip. To reset the circuit, first disconnect the appliance, and rectify the cause of the overload. Wait a short period and then press the appropriate reset button.

BE AWARE!

Some appliances draw more current on start-up than their normal running current, i.e. electric motors, and compressors. If in any doubt as to whether an appliance is compatible or not, please consult your CLARKE dealer.

Additionally, please refer to the specifications sheet attached, to ensure the machine is used under the correct operating conditions.

FIRE PREVENTION

- **ALWAYS** switch the engine OFF when refuelling.
- **ALWAYS** refuel away from any source of heat.
- **ALWAYS** refuel in a well ventilated area.
- **NEVER** overfill the tank. fill to the level specified.
- **NEVER** smoke whilst refuelling and avoid smoking or using a naked flame near the generator.
- **NEVER** start the engine if there is a fuel spill. Any spillage must be wiped clean and the generator allowed to dry before attempting to start the engine.

PREVENTION OF ELECTRIC SHOCK

- **ALWAYS** store the generator undercover when not in use and away from damp or wet conditions.
- **NEVER** use the generator when it is raining or snowing or in wet or damp conditions.
- **NEVER** operate the generator with wet hands.
- **NEVER** use water or any other liquids to clean the unit.

POSITIONING THE GENERATOR FOR USE

- **ALWAYS** leave at least a 1 metre gap between the generator and any surrounding building or structure.
- **ALWAYS** ensure the generator is on a solid, flat surface.
- **ALWAYS** ensure the surrounding area is free from any material that could burn or be damaged by heat.
- **NEVER** move or tilt the generator whilst it is switched on.
- **NEVER** cover or enclose the generator whilst it is in use.
- Be aware of the weight of the generator, do not attempt to lift or move the generator without the assistance of other personnel or suitable lifting equipment.

EXHAUST GAS PRECAUTIONS

WARNING!: EXHAUST FUMES CAN BE FATAL.

- **ALWAYS** ensure that there is adequate ventilation when using the generator.
- **ALWAYS** position the generator so that the exhaust is pointing away from people or animals.
- **NEVER** use the generator indoors or in an enclosed area. (i.e. in warehouse, tunnel, well or a hold).

PREPARATION FOR USE

Electric Start Models:

Electric start models are supplied with a 19AH dry charged battery, and a battery acid pack. The battery must be prepared as follows:

Check to ensure the battery is in good condition, with no damage caused during transit. Should there be any apparent damage, please consult your CLARKE dealer immediately.

1. Disconnect and remove the battery from the frame.
2. Remove the vent plugs and fill to 12mm above the top of the separators.
3. Allow the battery pack to soak for 30 mins, then check the levels and top up as necessary.
4. Replace the vent plugs.

Your battery is now ready for use, however we recommend that you put it on charge, at a rate of 2.5Amps ONLY, for 4 hours. Should you do this, remember to re-check the battery levels when completed, and top up if necessary with distilled water (to BS4974).

NOTE: You may charge at a lower rate than that specified, but a longer charge time will be necessary to achieve the same ampere hour input.

NOTE: Before connecting to the generator, ensure the outside of the battery is completely dry.

Connect the battery as follows:

1. Ensure the battery is firmly secured in its compartment within the frame.
2. Connect the battery terminals to the battery posts, ensuring you connect the **POSITIVE** connection **FIRST**. (When disconnecting **ALWAYS** disconnect the positive terminal last).

NOTE: Smear the connections and terminals with petroleum jelly.

Fuelling:

Fill with fuel, according to the instructions within the engine manual.

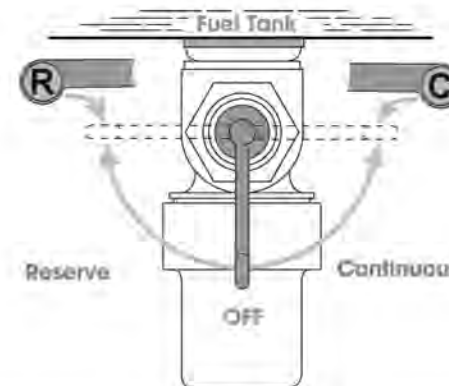
NOTE: Long range 'LR' models are fitted with a three position fuel tap as illustrated in fig. 1. These positions are ON/OFF/RESERVE.

- Ensure the tap is set in the required position.
- The fuel hose connectors are intact and there is no leakage.

NOTE: Always use a fuel funnel to fill the tank so as to avoid accidental spillage of fuel. If fuel is spilled it must be removed from the unit and the surrounding area, **BEFORE** attempting to start the engine.

IMPORTANT: ALWAYS check the engine oil level before use. Top up if necessary according to the engine manufacturers hand book.

Fig. 1



⚠ WARNING: ⚠

- Observe all safety precautions when handling fuel. Always refuel in a well ventilated area away from any heat sources.
- Ensure there is adequate fuel in the tank when using the generator. Running out of fuel or stopping the engine suddenly with a load connected could cause serious damage.
- Allow the unit to cool down before refuelling.
- Be aware that fuel and lubricants are potentially carcinogenic, direct skin contact should be avoided, wear suitable rubber gloves.

EXTENSION CABLES

All extension cables, from the generator set to the appliance, must be carefully selected, fitted and maintained. Cables in accordance with IEC 245-4 should be used.

Cables should be inspected regularly, and should be replaced, not repaired in the event of a defect.

The length and cross section of conductors should be selected according to the job to be done. The table below is an indication of the sizes that should be used.

Conductor (mm ²)	Max Length (m)	Current (Amps)	Single Phase (kW)
1.5	25	10	2.3
2.5	40	16	3.7
4.0	60	28	6.5

IMPORTANT! Ensure the cable is fully unwound when in use to avoid overheating, and the placing of extra load on the generator.