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Clarke®

POWER



PORTABLE GENERATOR

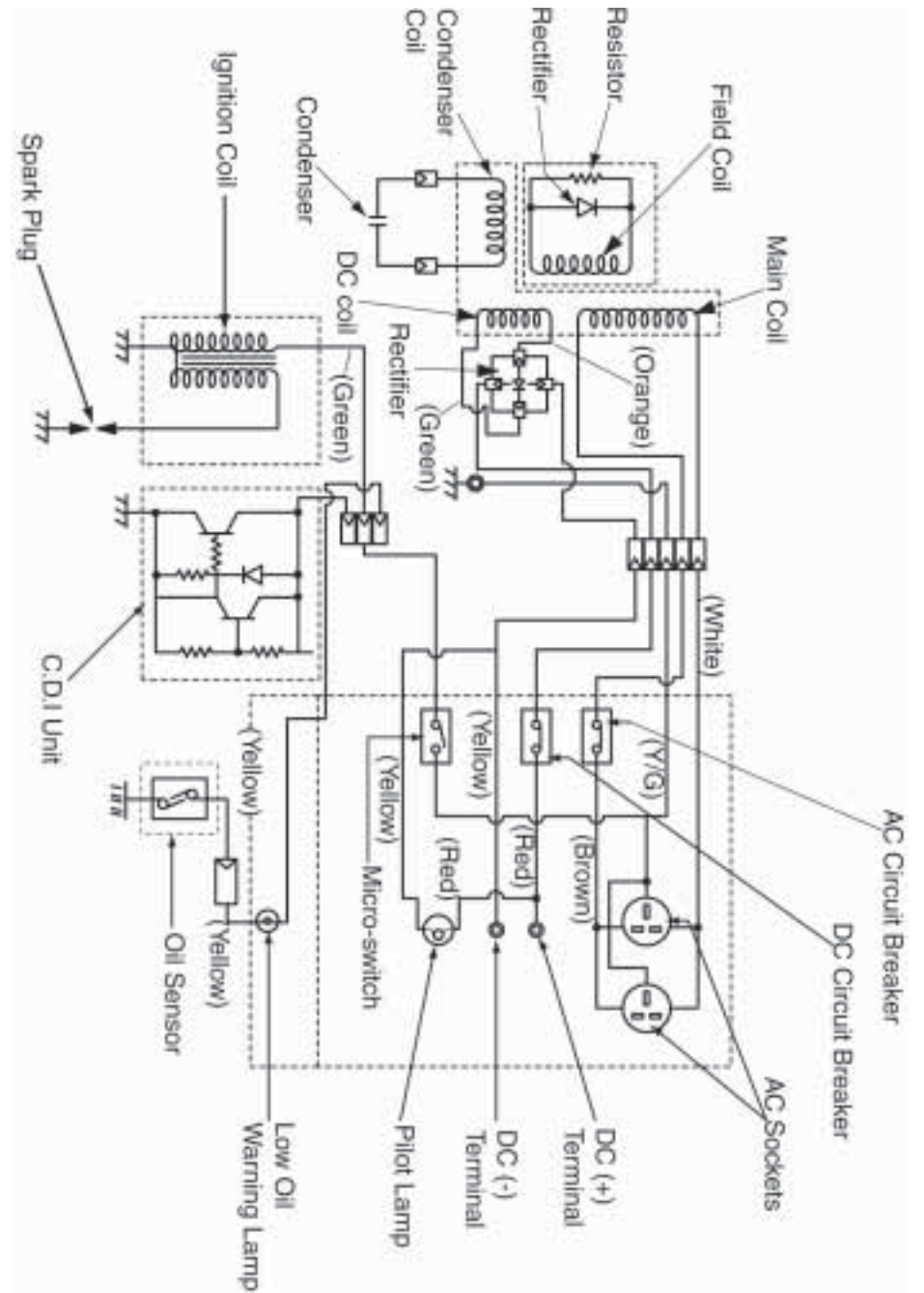
MODEL NO: G900

PART No: 8010100

OPERATION & MAINTENANCE INSTRUCTIONS



7. Schematic



Please note that the details and specifications contained herein, are correct at the time of going to print. However, CLARKE International reserve the right to change specifications at any time without prior notice.

5. Storage

- If the generator is to be stored for long periods, proceed as follows.
Drain fuel tank, (fuel left in the tank for long periods will deteriorate causing difficulty when trying to start the engine).
- Drain fuel from the carburettor.
- Change the engine oil.
- Wash the air cleaner.
- Check for loose bolts etc, tighten any found.
- Check for other defects, any defects should be rectified before continuing.
- Clean generator thoroughly and apply a preservative spray if available.
- Ensure the engine switch is in the STOP position.
- Pull the starter handle until resistance is felt, leave in that position.
- Store indoors in a well ventilated area, preferably with a low humidity level.

WARNING

Observe extreme caution when draining the fuel tank, DO NOT pour fuel down drains etc, always dispose of fuel, oils and chemicals etc, according to local authority regulations.

6. Specifications

Engine.	Type.	Petrol / Forced air cooled / 4 stroke / Side valve.
	Displacement.	92cc (5.61 cv.in).
	Fuel Tank capacity.	1.5 Litres.
	Ignition System.	Solid state ignition.
	Starting System.	Recoil.
	Continuous Rating.	Approx 3-4 Hours (50Hz).
Generator.	Type.	Type.2 pole revolving field.
	Exciting System.	Self-exciting.
	Voltage Regulating System.	Condenser type.
	AC Frequency.	50Hz.
	AC Voltage.	230 vac.
	AC Max Output.	700W 50Hz.
	AC Rated Output.	600W 50 Hz.
	DC Output.	12V 100W.
	Over Current Protection.	Circuit breaker.
Dimensions.	L x W x H	365 x 265 x 345mm (14½" x 10½" x 13½")
Dry Weight.		22.5kg (49½lbs).

Thank you for purchasing this CLARKE Portable Generator.

Before attempting to use the equipment, 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 the Generator giving you long and satisfactory service.

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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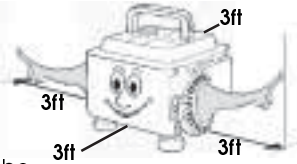
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1. Safety Precautions



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.

- ALWAYS** Learn the machines applications, limitations and the specific potential hazards peculiar to it. Read and become familiar with the entire operating manual.
- ALWAYS** check for damage. Before using the machine, 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 machines operation. Any damage should be properly repaired or the part replaced. If in doubt, **DO NOT** use the machine. Consult your local dealer.
- ALWAYS** use the generator on a flat level surface. Avoid tilting or moving while the generator is operating.
- ALWAYS** switch the machine off before servicing and when refuelling etc.
- ALWAYS** maintain machine in top condition. Keep clean for the best and safest performance. Follow maintenance instructions.
- ALWAYS** allow at least 1 metre (3ft) clearance around the generator. Surrounding areas should be free of inflammables and hazardous materials (lubricants, celluloid items, explosives etc).
- NEVER** smoke, use a naked flame or allow others to do so when refuelling.
- NEVER** overfill the tank, fill to the specified level only. Any spillages must be cleaned up and allowed to dry thoroughly before starting the generator.
- NEVER** cover or enclose in box etc.
- NEVER** operate the generator indoors.
- NEVER** operate the generator when raining or snowing.
- NEVER** operate in enclosed area where there is insufficient ventilation, such as a tunnel etc, ensure the exhaust pipe is directed towards a well ventilated open area.
- NEVER** connect the generator to a residual power source, if connected, could lead to a malfunction, even worse, a fire could result.



WARNING

Exhaust fumes contain toxic gases. Extreme care must be observed to ensure people and animals in the surrounding areas are not affected.

5. Trouble Shooting

Engine Fails To Start

Engine switch and or choke lever are incorrectly set.

Set engine switch to "RUN", move the choke lever to its uppermost position (CHOKE). Return choke lever to its normal position (RUN) when engine warms up.

Fuel tank empty.

Check fuel level and top up as required.

Appliance connected to the generator.

If connected, turn off the power switch at the appliance or disconnect completely.

Spark plug !

Check spark plug is connected correctly. Remove spark plug and clean. Fit new spark plug

Oil warning lamp flashing.

Check oil level and top up as required.

No power supplied to the appliance

Circuit breaker tripped.

Check the wattage of connected appliance is within the permissible tolerance level of the generator, if OK, reset the tripped circuit breaker and resume as normal.

Faulty connection at the appliance.

Check connections and make good if faulty one found.

If problems persist, contact Clarke service department for advice.

PARTS & SERVICE TEL: 020 8988 7400

or e-mail as follows:

PARTS: Parts@clarkeinternational.com

SERVICE: Service@clarkeinternational.com

- Using the box spanner/plug spanner Fig. 11, loosen and remove the plug by turning in an anticlockwise position.
- Using a plug cleaner or wire brush, clean plug electrode of burnt or deposited carbon.



Fig. 11

Check for correct gap between the electrodes. Adjust gap to 0.6 to 0.7mm (0.02" to 0.03") by reforming the electrode (Fig. 12). Recommended replacement plug type: **Champion - RCJ8** or **NGK - BMR4A**
 Refit spark plug in reverse order, DO NOT overtighten and take extra care not to break or damage the porcelain.

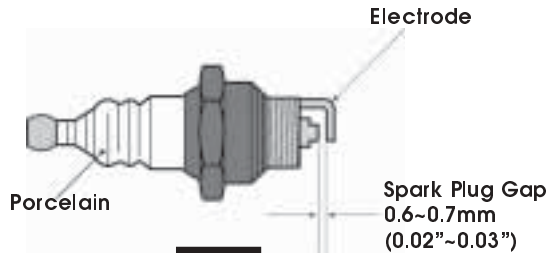


Fig. 12

Carburettor Adjustment

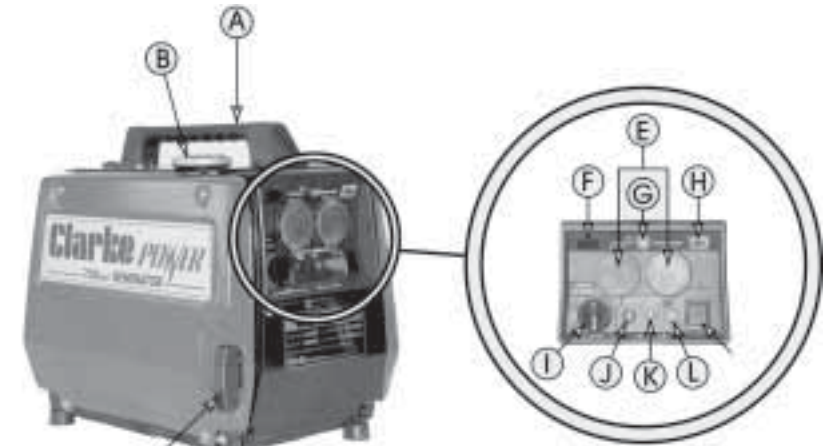
NOTE: It shouldn't be necessary to adjust the carburettor air screw as this has been preset at the factory. before attempting to make further adjustments, we recommend that you contact your nearest Clarke dealer for advice.

If it is necessary to make adjustments, remove the rubber grommet to gain access to the adjusting screw Fig. 13b (cut away view), to view the screw when making this adjustment is possible by looking through the open spark plug cover.

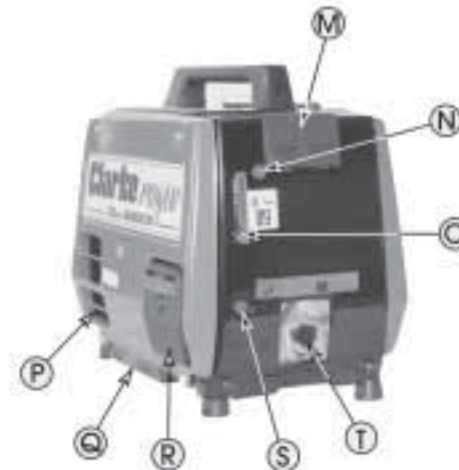


Fig. 13

2. Component Identification



- A. Carry Handle.
- B. Fuel Filler Cap.
- C. Recoil Starter Handle.
- D. Earth Terminal (Ground).
- E. Dual AC Sockets.
- F. Indicator Lamp.
- G. AC Circuit Breaker.
- H. Low Oil Warning Lamp.
- I. Engine Control Switch.
- J. Negative DC Terminal.
- K. DC Circuit Breaker.
- L. Positive DC Terminal.



- M. Spark Plug Cover.
- N. Air Adjusting Screw (Internal).
- O. Choke Lever.
- P. Exhaust Outlet.
- Q. Tool Box.
- R. Air Cleaner Cover.
- S. Frequency Adjusting Screw (Internal).
- T. Oil Filler.

3. Operation

Before operation, the following must be carried out,

Engine Oil Level

- Ensure the generator is standing on a flat level surface and not running.
- Unscrew anticlockwise, the oil filler plug/dipstick and remove.
- Using a clean soft cloth or tissue, wipe the dipstick, insert the dipstick into the filler neck as shown, remove and check the level on the minimum and maximum marks, top up as necessary with suitable oil.
SAE 10W-30 or 10W-40 is recommended for general all temperature use. If single viscosity oil is used, select the appropriate viscosity for the average temperature in your area.

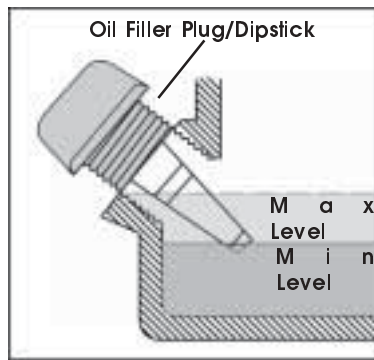


Fig. 1

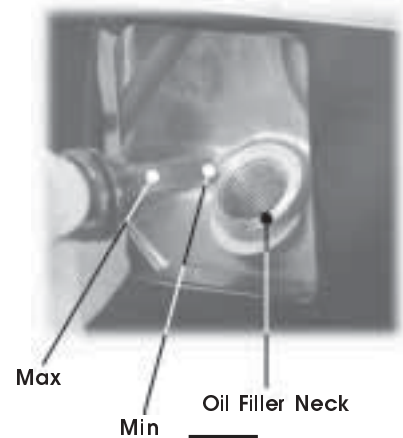


Fig. 2

Fuel Level

Check fuel level before starting the generator, by viewing the fuel gauge on top of the generator. If the tank requires filling, observe all the safety aspects before doing so.

WARNING

Always connect a ground lead to the generator body when refuelling. One end of the lead should be connected to the ground terminal below the recoil handle, the other to a good known ground.

NOTE: the generator should also be grounded when the appliance is grounded.

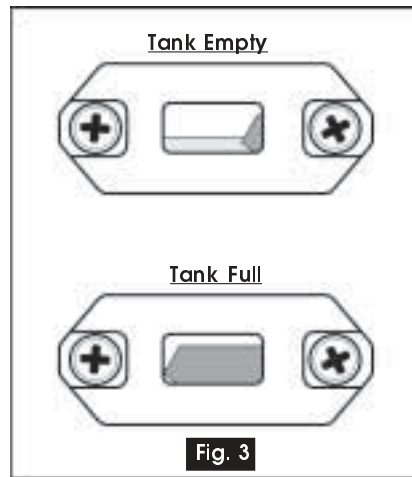


Fig. 3

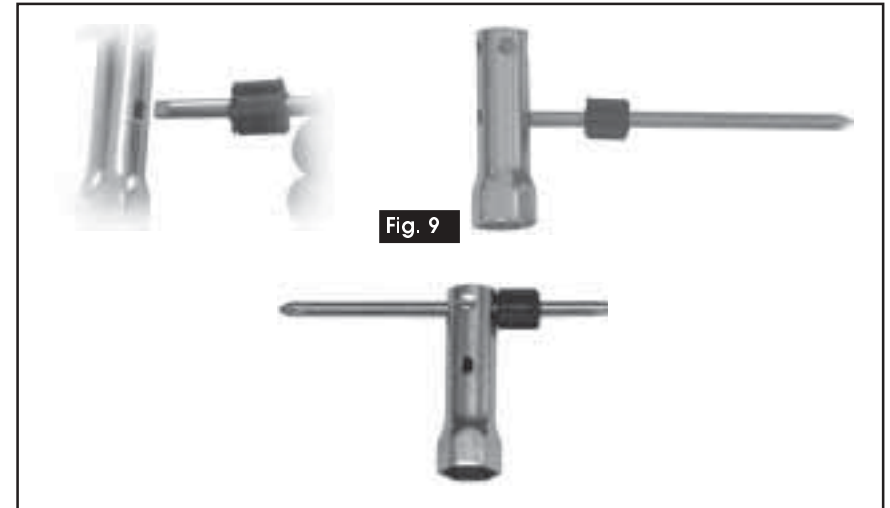


Fig. 9

Use as a plug spanner, insert the tommy bar into the holes in the top of the box spanner Fig.9.

To access the plug, open the spark plug cover by pushing in at the bottom, Fig. 10a and lifting upwards, Fig. 10b.

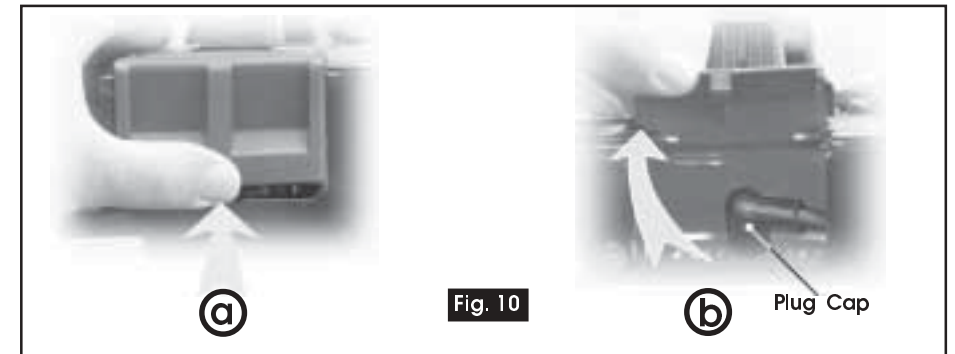


Fig. 10

Pull the spark plug cap off to expose the spark plug Fig. 11.



Fig. 11

Air Filter

The air cleaner consists of three parts, (Fig. 7).

To Clean/replace the air filter proceed as follows.

All parts removed must be carefully put to one side prior to cleaning and reassembling.

- Using No 2 phillips screwdriver loosen (anticlockwise) and remove the cover securing screw, Fig. 7a.
- Remove the air filter cover.
- Withdraw filter element 1, Fig. 7b.
- Withdraw the filter cage 2, Fig. 7c.
- Withdraw filter element 3, Fig. 7d
- Wipe out the air filter housing

using a clean soft cloth and a mild household detergent solution, DO NOT use chemicals or harsh abrasives. Ensure the housing is dried thoroughly before reassembling. Carefully wash the filter elements in a clean detergent solution, remove excess solution and allow to dry thoroughly. Once dry soak the elements in a mixture of 3 parts petrol to 1 part engine oil, squeeze out the excess oil and reinstall into generator.

NOTE:

DO NOT twist the elements to remove the excess oil, just grasp and squeeze them tightly.

Spark Plug

Remove the spark plug using the plug spanner supplied, the spanner is stored in the toolbox, underneath the generator (Fig. 8). To access the spanner, remove the securing screw, allow the box to hinge down on the R/H side and withdraw in direction of arrow. To remove and clean the plug, proceed as follows.

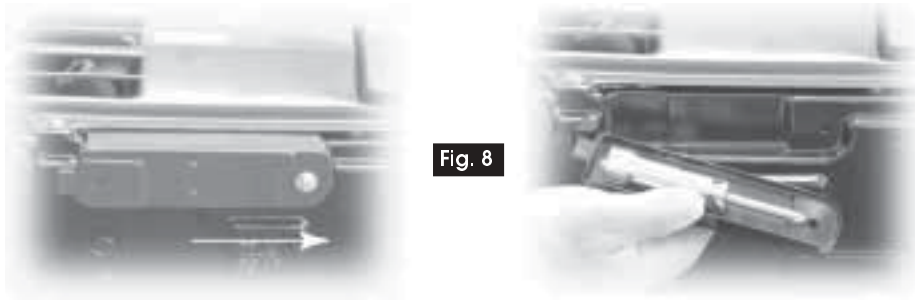


Fig. 8

Tools included are universal, consisting of, 1 box spanner (plug spanner) and 1 tommy bar/phillips screwdriver. To use as a screwdriver, simply withdraw the tommy bar from the box spanner and insert the keyed end into the box spanner, see Fig. 9.

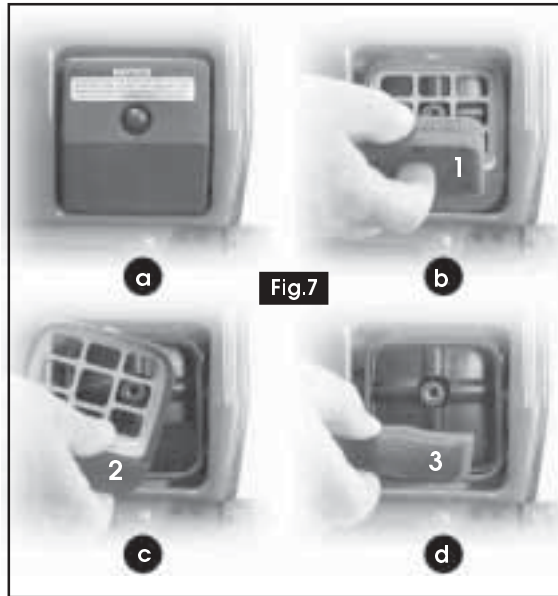


Fig.7

Siting The Generator

- The area should be free of inflammables and hazardous materials.
- The generator is placed at least 1 metre away from buildings and other facilities.
- The area must be well ventilated,
- The generator must be positioned with the exhaust directed towards a well ventilated open space.
- The generator must be positioned away from any type of open flame or sparks etc.
- The generator must be positioned in a stable condition on a flat level surface.
- The generator is not enclosed or blocked by obstructions such as pieces of wood and cardboard etc.

Engine Control Switch

The engine control switch has a built in fuel shut OFF valve, this enables easy starting and stopping of the generator.

The control switch has two positions, STOP and RUN. When finished using the generator, turn the switch to the stop position, this not only switches the engine OFF, but also shuts the fuel OFF.



Fig. 4

Choke Lever

Starting the generator requires the choke lever to be moved to the upper position (CHOKE).

When the engine has warmed up, slowly move the lever down to the lower position (RUN).



Fig. 5

Indicator Lamp

When the generator is running, the indicator lamp is ON (green). when the engine is switched OFF, the indicator lamp is extinguished.

Oil Low Warning Lamp

When the oil level drops below the minimum level, the warning lamp flashes, if this should happen, switch the generator OFF, allow five minutes to cool down and for the oil to settle, check the oil level and top up as necessary, see maintenance, section 4.

Battery Charging

The DC output is used for charging 12volt batteries ONLY.

To charge a 12volt battery, proceed as follows.

ENSURE the generator is switched off by turning the engine control switch to the STOP position

Using suitable cables (not supplied), connect one end of the negative lead to the negative terminal (BLACK) on the generator, and the other to the negative terminal on the battery.

Connect one end of the positive lead to the positive terminal (RED) on the generator, and the other end to the positive on the battery.

Remove the battery caps and check the water level, top up with distilled water if required, Refit the caps, leaving slightly loose if battery not the sealed type, this will prevent the build up of dangerous gasses.

Turn the engine control switch to the run position, pull the recoil starter handle to start the engine.

NOTE:

the charging time depends very much on the state of discharge! e.g. a fully discharged 12v-40Ah auto battery will take approx 5 to 6 hours to fully charge, the charge level can be checked using a hydrometer to measure the specific gravity in each cell.

Take care when handling auto batteries as they contain acid, always wear protective gloves and goggles when doing so.

Always refer to specific battery manufacturers instructions before commencing any maintenance.

Circuit Breakers

Both circuit breakers AC and DC are designed to cut the electric current when the current exceeds its limit or a malfunction occurs in the connected appliance.

The circuit breaker buttons are transparent with an internal coloured button which will pop out in the event of an overload etc.

Before attempting to reset the relevant circuit breaker, switch the generator OFF, locate and rectify the reason for the tripped breaker.

Once the fault is rectified, restart the generator, wait for a couple of seconds, depress the breaker button, the internal coloured button should remain IN when the breaker button is released.

If the circuit breaker continually trips out, and the cause cannot be traced, contact your nearest Clarke dealer for advice, alternatively, have the connected appliance checked by a qualified electrician.

To determine if the fault lies with the appliance or the generator itself, try connecting another appliance, if the breaker still trips out, the fault is clearly within the generator, if it doesn't trip, then the appliance must be at fault.

NOTE:

When charging a large capacity battery, DC output will exceed the limit and the DC circuit breaker will trip out and cut the current, this is normal, if this does happen, wait a few minutes, then reset the circuit breaker to resume charging, this applies only when charging large capacity batteries.

WARNING

Always ensure any appliances are switched OFF/disconnected before starting the generator.

Frequency Adjusting Screw

The frequency is factory set and should not require further adjustment, however the frequency can be adjusted, simply by removing the rubber grommet in the front panel to gain access to the adjusting screw.

Using a small phillips screwdriver adjust as required, replace the grommet when finished.

NOTE:

This adjustment should only be carried out by a competent person.

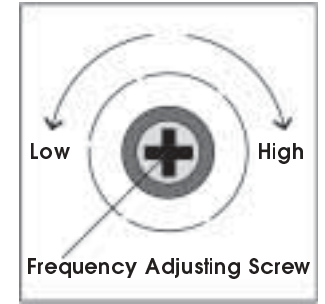


Fig. 6

4. Maintenance

Daily

- Check engine oil level and top up as required.
- Check generator for worn or broken parts, any found should be rectified before continuing.
- Wipe generator with a clean soft cloth, lightly moistened with water. DO NOT use harsh abrasive cleaning agents or chemicals which could damage certain parts.

Periodic

Item	20hrs	50hrs	100hrs	200hrs	500hrs	1000hrs
Clean air filter.	#
Check & clean spark plug.	.	#
Change engine oil.	.	.	#	.	.	.
Check & adjust plug gap.	.	.	.	#	.	.
Clean fuel filter.	.	.	.	#	.	.
Replace spark plug.	#	.
Replace air filter.	#	.
Clean carburettor.	#	.
Remove carbon from cyl head.	#	.
Check & adjust valve clearance.	#	.
Check oil sensor system.	#	.
Overhaul (CLARKE Service).	#
Check engine switch.	#	#
Check rotor.	#
Check stator.	#
Check engine mounts.	#

NOTE:

If operating in extremely dusty conditions, the air and fuel filters should be inspected and cleaned more frequently.