

CLARKE®



3.4KW INVERTER GENERATOR MODEL NO: IG3500AF

PART NO: 8877125

OPERATION & MAINTENANCE INSTRUCTIONS



ORIGINAL INSTRUCTIONS

GC0420 - ISS 3

INTRODUCTION

Thank you for purchasing this CLARKE Generator.

Before attempting to operate the machine, it is essential that you read this manual thoroughly and carefully follow all instructions given. In doing so you will ensure the safety of yourself and that of others around you, and you can also look forward to the product giving you long and satisfactory service.

Ensure the welder and its components suffered no damage during transit and that all components are present. Should any loss or damage be apparent, please contact your CLARKE dealer immediately.

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.

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.

If disposing of this product or any damaged components, do not dispose of with general waste. This product contains valuable raw materials. Metal products should be taken to your local civic amenity site for recycling of metal products.

GENERAL SAFETY RULES

WARNING: EXHAUST FUMES CAN BE EXTREMELY DANGEROUS IF INHALED



WORK AREA

1. **Always** use in a well ventilated area.
2. **Always** position the exhaust outlet away from people.
3. **Never** use indoors or in a confined space.
4. Read these safety instructions before using the equipment.
5. Keep children away from the generator.

POSITIONING THE GENERATOR

1. **Always** leave a least a 1m gap between the generator and any surrounding building or structures.
2. **Always** ensure the generator is on a solid, flat surface.
3. **Always** ensure the surrounding area is free from any material that could burn or be damaged by heat.
4. **Never** move or tilt the generator whilst it is switched on.

FIRE PREVENTION

1. **Always** switch the engine OFF when refuelling.
2. **Always** refuel away from any source of heat.
3. **Always** refuel in a well ventilated area.
4. **Only** use standard unleaded petrol.
5. **Never** smoke whilst refuelling and avoid smoking or using a naked flame near the generator.
6. **Never** start the engine if there is spilled fuel. Any spillage must be wiped clean and the generator allowed to dry before attempting to start the engine.










PREVENTION OF ELECTRIC SHOCK

1. **Never** use the generator in wet conditions unless it is well protected/ covered. Under these conditions, adequate ventilation **MUST** be provided.
2. **Never** operate the generator with wet hands.
3. **Never** use water or any other liquids to clean the generator.

ADDITIONAL SAFETY RULES FOR GENERATORS

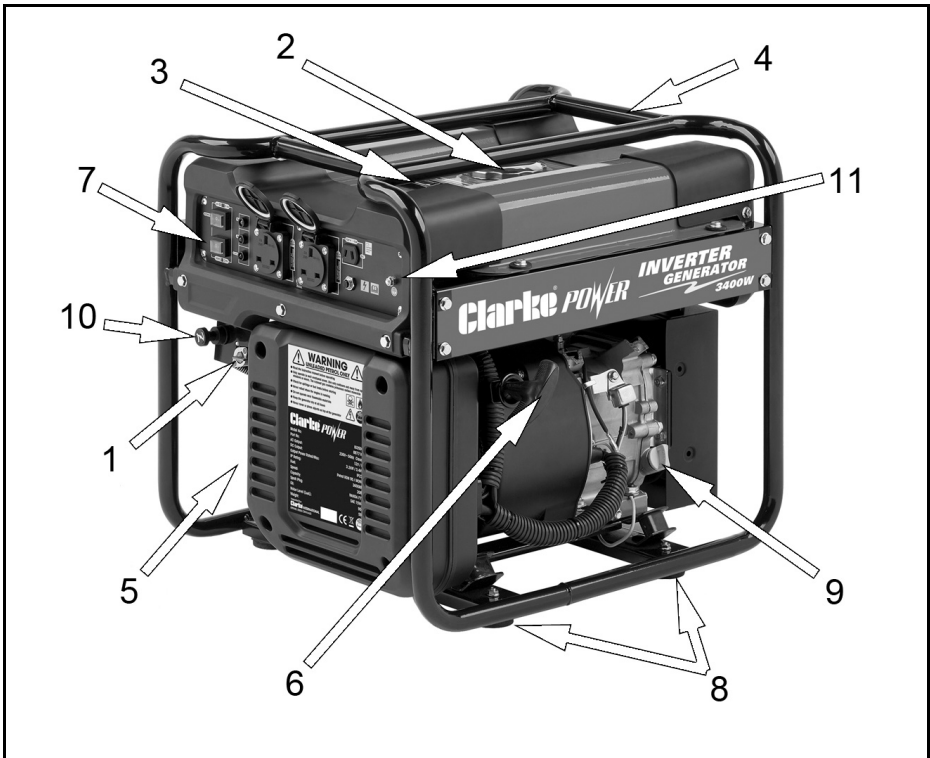
1. **Always** ensure the applied load does not exceed the generator rating. Overloading the generator is dangerous and could cause damage.
2. **Always** disconnect the generator when carrying out any maintenance.
3. **Always** ensure the generator reaches operating speed before connecting a load.
4. **Never** allow the generator to run out of fuel when a load is connected.
5. **Never** transport the generator with fuel in the tank.
6. **Do Not** connect to a commercial or residential power supply; e.g. ring main.

SAFETY SYMBOLS

	Read Instruction manual before use		Danger - highly flammable liquid.
	Caution - The user should be aware of a general hazard		Engine and exhaust become hot during use - Do not touch
	Dangerous voltage. Risk of electric shock		Poisonous fumes - Do not use the generator in an enclosed space.
	Wear ear defenders		For outdoor use only. Do not expose to rain.
	Do not use in the wet		

The above symbols are to be found on the product.

GENERATOR OVERVIEW



NO	DESCRIPTION	NO	DESCRIPTION
1	Fuel Supply Valve	7	Control Panel
2	Fuel Cap	8	Anti-vibration Feet
3	Fuel Level Gauge	9	Dipstick
4	Frame	10	Choke Lever
5	Air Filter (at the rear)	11	Earth Point
6	Starting Handle		

UNPACKING AND ASSEMBLY

Unpack your generator and check to ensure the following items are present. Should there be any deficiency or damage caused during transit contact your CLARKE dealer immediately.

- Spark plug box spanner
- Oil Funnel
- 12 Volt D.C. output lead assembly

BEFORE USING THE GENERATOR

Attach a suitable earth lead to a good earthing point - water pipe, ground spike etc., whenever you use this generator.

Before using your generator check that:

- The generator is in good condition and free from any damage.
- The generator is clean and free from fuel or oil spillage.
- The generator is correctly located for use (See page 3).
- The fuel system is intact and there is no leakage.

NOTE: Always use a funnel to fill the fuel tank to avoid accidental spillage of fuel. If fuel is spilled it must be cleaned up before use.



WARNING: 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.

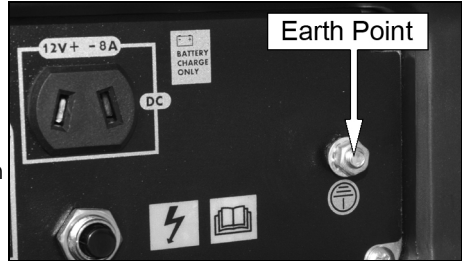
EARTH POINT



WARNING: FAILURE TO PROPERLY GROUND THE GENERATOR CAN RESULT IN ELECTROCUTION

1. Ground the generator by connecting a suitable grounding wire to the earth point.

NOTE: Connect the other end of the grounding wire to a copper or brass grounding rod that is driven into the earth.



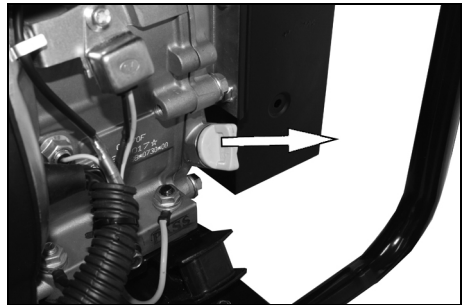
CHECKING THE ENGINE OIL LEVEL



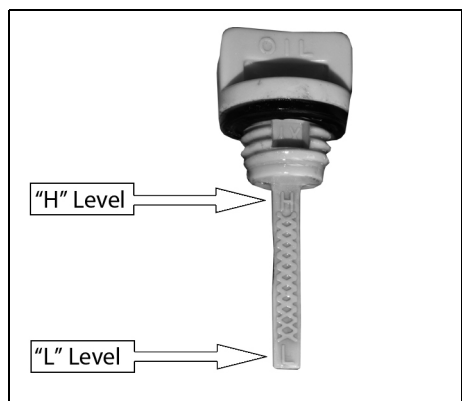
WARNING: TO CARRY OUT THIS CHECK, PLACE THE GENERATOR ON LEVEL GROUND WITH THE ENGINE SWITCHED OFF.

WARNING: TAKE CARE NOT TO TOUCH ANY HOT PARTS OF THE GENERATOR WHEN CHECKING THE OIL LEVEL.

1. Turn the dipstick anti-clockwise and remove from the oil filler tube.
2. Wipe the dipstick with a clean cloth.
3. Insert the dipstick back into the oil filler tube and then remove it again. Do not screw in the oil filler cap/dipstick when doing this.



4. If the oil level is at or below the 'L' mark on the dipstick, add oil to the crankcase.
 - Fill until the oil reaches the threads in the oil fill tube.
 - Oil capacity (See page 19).
 - We recommend the use of SAE15W40 oil in this generator, available from your CLARKE dealer.
5. Replace the oil filler cap.

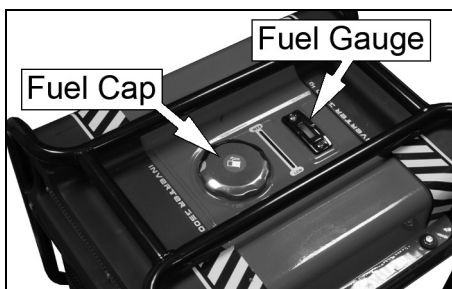


CHECKING THE FUEL LEVEL

1. Check the fuel level on the fuel gauge.
2. To add fuel, open the fuel filler cap.
3. Slowly add fuel to the fuel tank (maximum 13L) watching the fuel level gauge as you do so.

RECOMMENDED FUEL

We recommend the use of standard unleaded petrol.



WARNING: ALWAYS REFUEL IN A WELL VENTILATED AREA AWAY FROM ANY HEAT SOURCES.

WARNING: ALLOW THE UNIT TO COOL DOWN BEFORE REFUELLING.

WARNING: DO NOT LEAVE FUEL WITHIN THE REACH OF CHILDREN.

IMPORTANT: Do not overfill the fuel tank.

4. Replace the fuel filler cap securely.

INDICATOR LIGHTS

OUTPUT

The output indicator (Green) will remain whenever the generator is producing power.

OVERLOAD

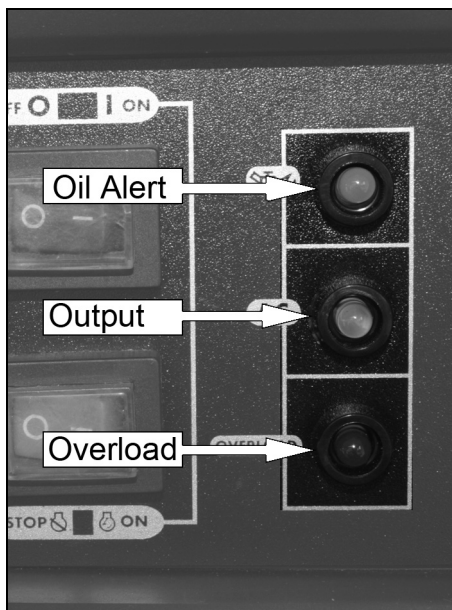
The overload indicator (Red) will light up if there is an overload or a short circuit in the connected appliance. If this happens, proceed as follows:

1. Turn off any connected electrical devices and stop the engine.
2. Reduce the total wattage of connected electric devices to within the rated output of the generator.
3. Check air inlet and around the control unit. If any obstructions are found, remove them.
4. After checking, restart the engine.

OIL ALERT

The oil alert indicator (Yellow) will light up when the oil level is low.

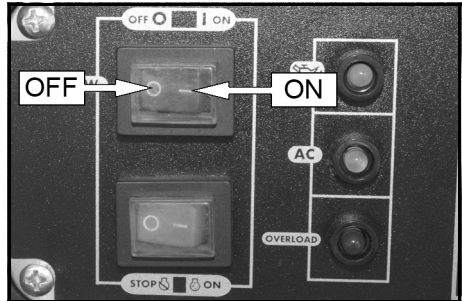
- To add oil, follow the instructions on page 7.



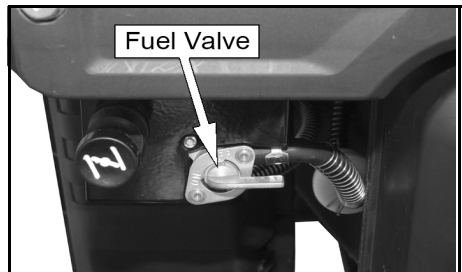
USING YOUR GENERATOR

STARTING THE ENGINE

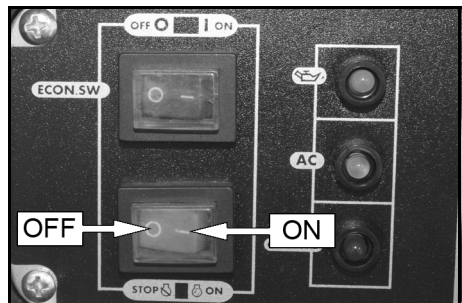
1. Remove all connections from the AC sockets.
2. Set the ECON switch to 'OFF'.



3. Set the fuel valve to the ON position as shown.

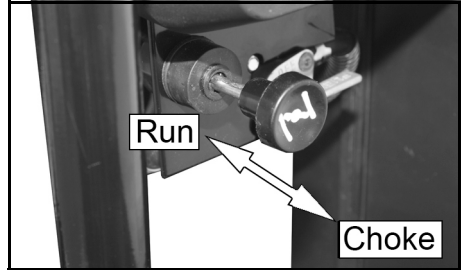


4. Set the engine switch to 'ON'.



5. Move the choke to the 'Choke' position.

NOTE: Not required if the engine is warm.



6. Hold the generator steady and pull the starting handle lightly until you start to feel resistance. Then pull sharply to start the engine.

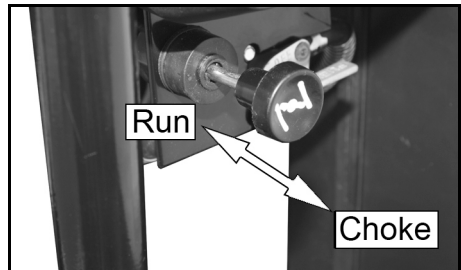
NOTE: You may have to do this more than once.



WARNING: ONCE THE GENERATOR HAS STARTED, RELEASE THE STARTING HANDLE SLOWLY TO AVOID INJURY/DAMAGE AS IT RECOILS.

NOTE: When you first start the generator, the overload indicator may light up for a few seconds, this is normal. If the overload indicator is still lit after 5 seconds, stop the engine and contact your CLARKE dealer.

7. Once the engine has warmed up, move the choke to the "run" position.



ECONOMY SWITCH

ON:

Minimizes fuel consumption and reduces noise levels when no load is applied to the generator. Engine speed varies with the load.

OFF:

The smart throttle system does not operate.



CAUTION: THE ECONOMY CONTROL DOES NOT WORK EFFECTIVELY IF THE ELECTRICAL APPLIANCE REQUIRES 'BURSTS' OF POWER.

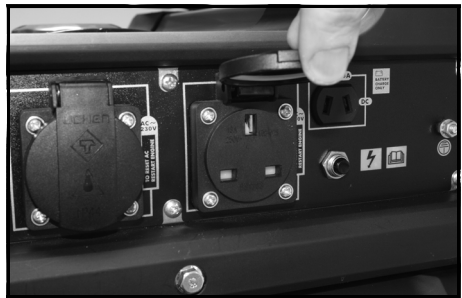
CAUTION: TURN THE ECONOMY CONTROL FEATURE OFF WHEN CONNECTING HIGH LOAD APPLIANCES OR WHEN CONNECTING TO THE DC OUTPUT

CONNECTING ELECTRICAL APPLIANCES

The generator can supply both 230V AC and 12V DC

AC POWER

1. Start the engine. See page 10
2. Connect the appliance to the generator.
 - Make sure the appliance is turned off before connecting it to the generator.



CAUTION: MAKE SURE THAT THE APPLIANCE BEING CONNECTED IS IN GOOD WORKING ORDER, IF IT BEGINS TO ACT ABNORMALLY OR STOPS SUDDENLY, DISCONNECT IT FROM THE GENERATOR

CAUTION: MAKE SURE THE APPLIANCE DOES NOT EXCEED THE MAXIMUM RATED LOAD FOR THE GENERATOR.

CAUTION: ANY DEVICE WHICH CONTAINS AN INDUCTIVE LOAD E.G. DEVICES THAT CONTAIN A MOTOR MAY REQUIRE MORE CURRENT ON STARTUP.

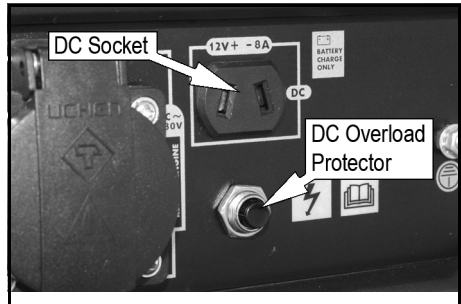
DC POWER (CHARGING CAR BATTERIES ONLY)



WARNING: FOR YOUR SAFETY PERFORM THE FOLLOWING INSTRUCTIONS IN THE ORDER SHOWN.

WARNING: YOU SHOULD ONLY USE THIS GENERATOR TO 'TOP UP' THE BATTERY, ALSO TRYING TO CHARGE A COMPLETELY FLAT BATTERY MAY CAUSE THE FUSE TO BLOW.

1. Start the generator. See page 10.
2. Connect the battery charging leads to the battery.
 - Make sure you clamp the red wire to the positive (+) terminal and the black wire to the negative (-) terminal of the battery.
3. Connect the battery charging leads to the generator.
 - The battery will begin to charge
4. Monitor the voltage across the battery regularly during charging and disconnect the battery when the voltage reaches 14.4 volts.
 - Do not allow the clamps to touch each other whilst connected to the generator.



CAUTION: WHEN DISCONNECTING THE BATTERY, ALWAYS DISCONNECT THE NEGATIVE (BLACK) LEAD FIRST.

DC OVERLOAD PROTECTOR

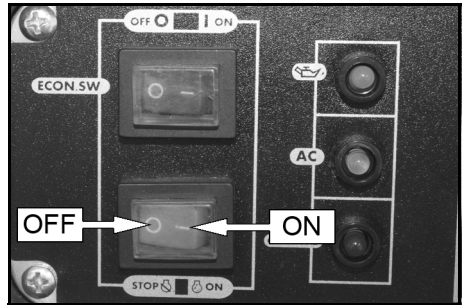
If the DC overload protector activates, wait for a few minutes and then press the DC overload protector button shown on the right.



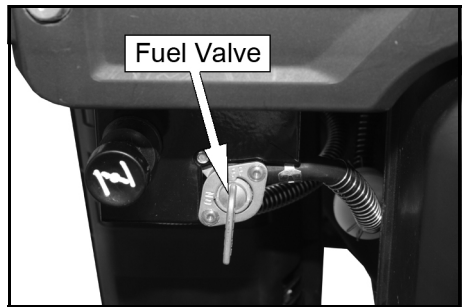
SHUTTING DOWN THE GENERATOR

1. Turn off and disconnect any electric devices.
2. Set the engine switch to the "0" (OFF) position.

To stop the generator in an emergency simply set the engine switch to 'OFF'.



3. Set the fuel valve to the OFF position as shown.



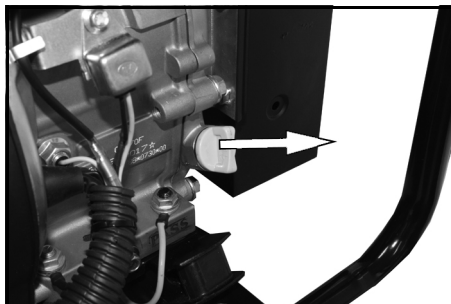
MAINTENANCE

CHANGING THE ENGINE OIL



CAUTION: PROLONGED EXPOSURE TO USED ENGINE OIL IS HARMFUL, ALWAYS WASH YOUR HANDS THOROUGHLY AFTER HANDLING USED ENGINE OIL.

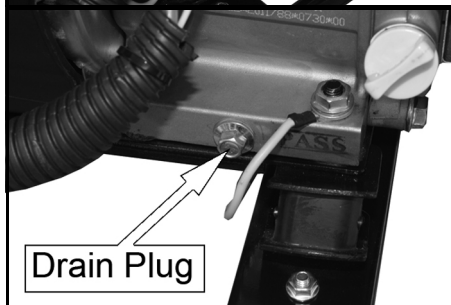
1. Unscrew and remove the oil filler cap/dipstick.



2. Place an oil collection tray under the drain plug.

3. Unscrew the drain plug and allow the used engine oil to drain from the crankcase into the oil collection tray.

NOTE: Drain the engine oil when the engine is warm, this will ensure the oil flows out faster.



4. Replace the drain plug.
5. Fill the crankcase with engine oil.
 - Fill until the oil reaches the threads in the oil fill tube.
 - Oil capacity (See page 19).
 - We recommend the use of SAE15W40 oil in this generator, available from your CLARKE dealer.
6. Replace the dipstick.

ENVIRONMENTAL PROTECTION

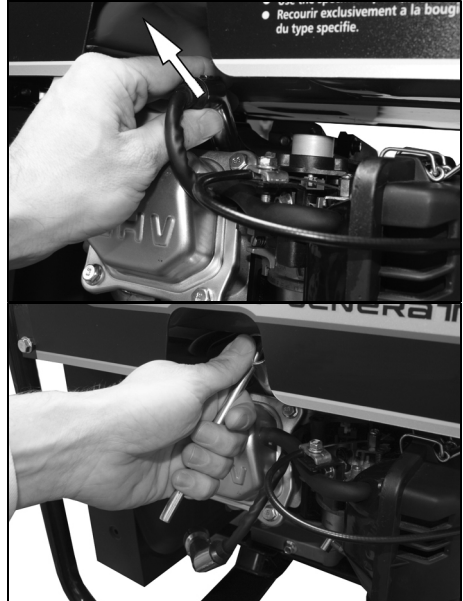
One of the most damaging sources of pollution is oil. Do not throw away used engine oil in with your domestic rubbish or pour it down drains and sinks. Place it in a leak proof container and take it to your local waste disposal site.

CHANGING THE SPARK PLUG



CAUTION: ALLOW THE ENGINE TO COOL BEFORE REMOVING THE SPARK PLUG.

1. Remove the spark plug cap from the spark plug.



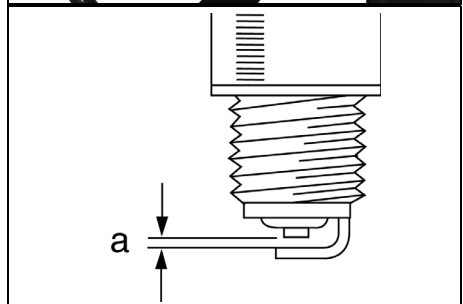
2. Use the spark plug spanner supplied to remove the spark plug.

3. Remove any carbon that has accumulated around the electrode.

4. Check the spark plug gap (a), it should be between 0.7 and 0.8 mm, adjust if necessary.

5. Check the overall condition of the spark plug for erosion or pitting and replace if necessary.

6. Reinstall the spark plug and replace the spark plug cap.

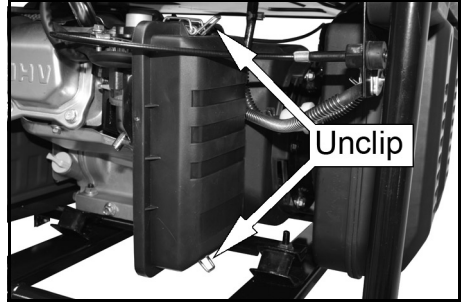


CHECKING THE AIR FILTER



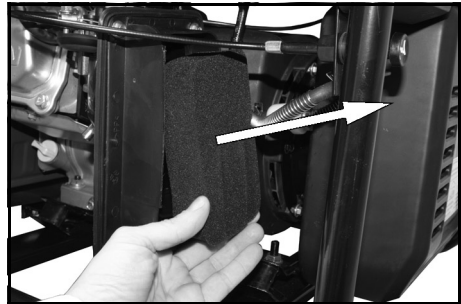
CAUTION: DO NOT USE THE GENERATOR WITHOUT THE AIR FILTER FITTED, THIS CAN DAMAGE THE GENERATOR.

1. Unclip and remove the air filter cover.



2. Remove the air filter element.
3. Make sure that the air filter is clean and not damaged.
 - If the air filter is damaged contact CLARKE spare parts department for a replacement.

- If the filter is dirty, wash in a solution of warm water and mild detergent and rinse thoroughly. Leave the filter to dry completely, once it is dry immerse in clean engine oil and squeeze to remove excess oil.



WARNING: DO NOT USE INFLAMMABLE SOLVENTS OR PETROL TO CLEAN THE AIR FILTER.

4. Replace the filter to its original position and replace the air filter cover.

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
The generator fails to start	Ignition switch is off.	Set the ignition switch to 'on'.
	Choke in the wrong position	Adjust choke accordingly
	Not enough oil in the generator.	Add more oil, See page 7.
	No fuel, Fuel valve not fully open.	Check valve is fully open or add more fuel, See page 8.
	Spark plug defective or has loose cable.	Change the spark plug and check cable, See page 16.
	Equipment already connected to the generator	Disconnect device from the generator.
The generator fails to generate electrical output	The device you are trying to power is faulty.	Ensure the device you want to power is working properly.
	The AC breaker is switched off.	Switch the AC breaker on.
	Worn generator brushes.	Have your CLARKE dealer replace the brushes.
	Damaged cables.	Replace cables.
The generator is difficult to start	The air filter is dirty.	Clean the air filter,.
	The fuel line is blocked.	Clean the fuel line between the tank and carburetor, including any filter used.
Circuit breaker repeatedly trips	Unit is overloaded.	Reduce load on generator
	Faulty cable or equipment	Check for damaged, bare or frayed wires on equipment.
Generator over-heating	Generator is overloaded.	Reduce load.
	Insufficient ventilation.	Move unit to an adequate supply of fresh air.

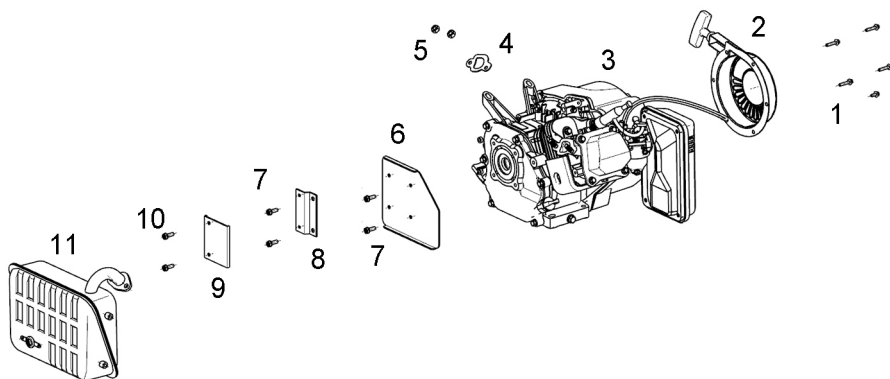
If this does not solve your problem contact the CLARKE service department.

SPECIFICATIONS

CLARKE part no 8877125		IG3500AF
Engine	Engine Model	QL170F
	Fuel Type	Unleaded Petrol (RON95)
	Displacement (cm ³)	212
	Start system	Hand recoil
	Fuel tank capacity (L)	13
	Fuel consumption	420 g/kwh
	Maximum run time @75% Load	8 hours
	Engine oil type	SAE15W40
	Engine oil capacity (L)	0.6
	Guaranteed sound power (LWA dB)	96
Generator	Rated Frequency (Hz)	50
	AC Output Voltage (V)	230
	DC Output Voltage (V)	12V (Max 8A)
	Rated Power (W)	3200
	Max. Rated Power (W)	3400
Dimensions	Length (mm)	520
	Width (mm)	440
	Height (mm)	470
	Unpacked Weight (kg)	35
Environmental	Sound pressure level	73.6 dB
	Sound power level	93.06 dB
	Guaranteed sound power level	96 dB
	Uncertainty factor	2 dB

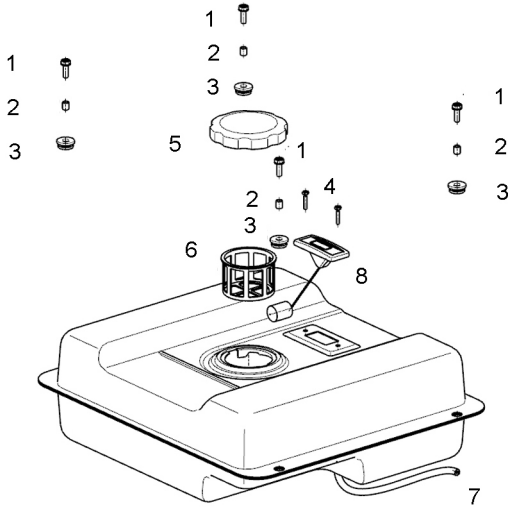
PARTS LISTS AND DIAGRAMS

ENGINE ACCESSORIES



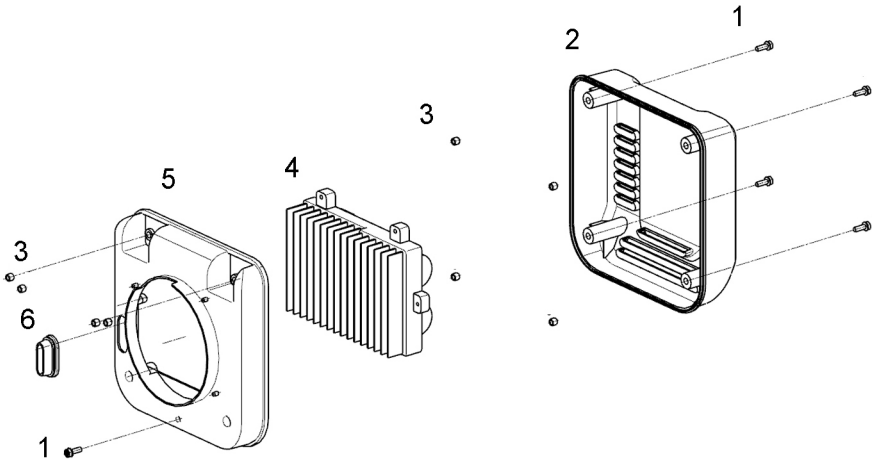
ITEM	PART NUMBER	DESCRIPTION	QTY
1	QLKJ151001	Hex Flange Bolt M5	5
2	QLKJ151002	Recoil Starter Assembly	1
3	QLKJ151003	Engine	1
4	QLKJ151004	Exhaust Gasket	1
5	QLKJ151005	Hex Nut M6	2
6	QLKJ151006	Insulation Board	1
7	QLKJ151007	Hex Socket Head Cap Screw M8	4
8	QLKJ151008	Muffler Support Plate 1	1
9	QLKJ151009	Muffler Support Plate 2	1
10	QLKJ151010	Hex Flange Bolt M6	2
11	QLKJ151011	Muffler	1

FUEL TANK ASSEMBLY



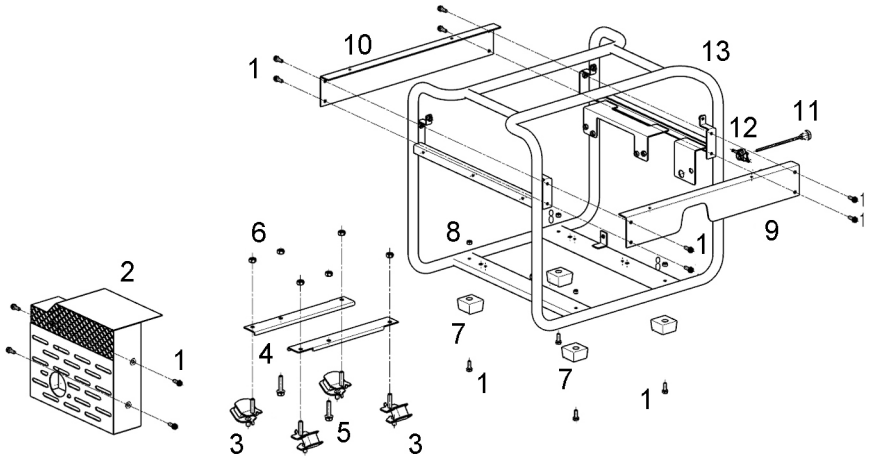
ITEM	PART NUMBER	DESCRIPTION	QTY
1	QLKJ151010	Hexagon Flange Bolts M6	4
2	QLKJ151012	Bushing (Ø8xØ6x9)	4
3	QL140831	Rubber Washer	4
4	KJ151013	X-Head Hex Bolts M5	2
5	KJ151014	Tank Cap	1
6	KJ151015	Filter screen	1
7	KJ151016	Fuel Tubing	1
8	KJ151017	Fuel Level Gauge	1

INVERTER ASSEMBLY



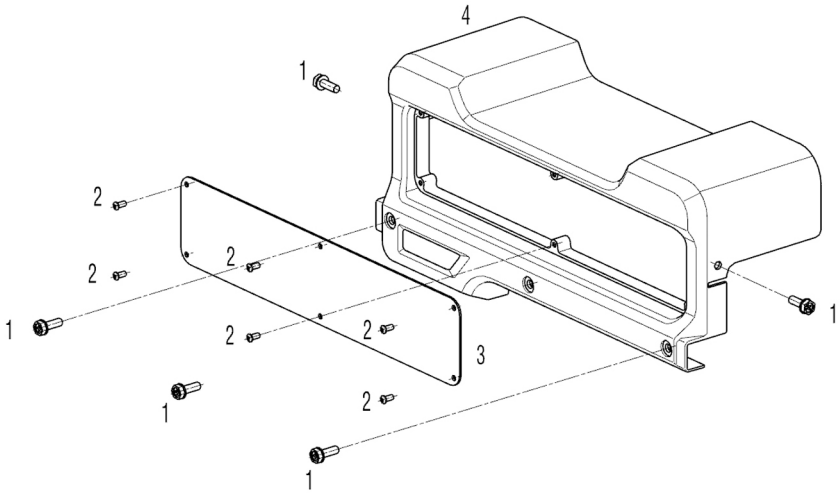
ITEM	PART NUMBER	DESCRIPTION	QTY
1	QLKJ151010	Hex Flange Bolts M6	5
2	QLKJ151031	Front Cover	1
3	QLKJ151032	Bushing (Ø6.5xØ9x7)	8
4	QLKJ151033	Inverter Unit	1
5	QLKJ151034	Rear Cover	1
6	QLKJ151035	Waterproof Rubber	1

OPEN FRAME ASSEMBLY



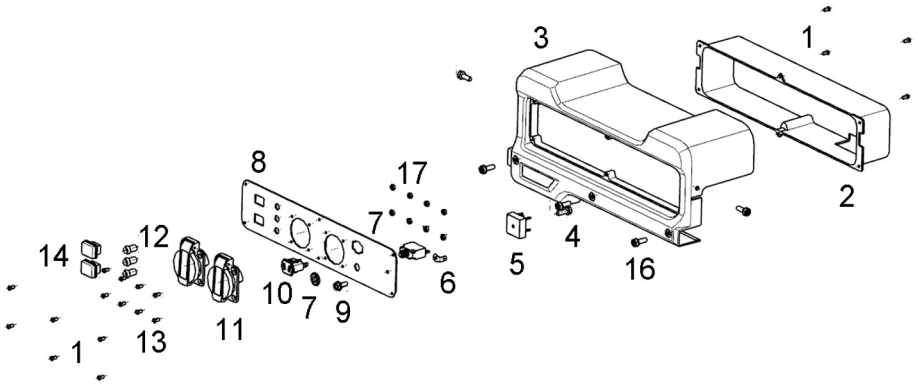
ITEM	PART NUMBER	DESCRIPTION	QTY
1	QLKJ151010	Hex Flange Bolts M6	16
2	QLKJ151035	Muffler Cover	1
3	QLKJ151036	Spring Foot	4
4	QLKJ151037	Engine Floor	6
5	QLKJ151038	Hex Flange Bolts M8	2
6	QLKJ151039	Hex Flange Nuts M8	6
7	QLKJ151040	Rubber Foot	4
8	QLKJ151041	Hex Flange Nuts M6	4
9	QLKJ151042	Left Panel	1
10	QLKJ151043	Right Panel	1
11	QLKJ151044	Choke Line	1
12	QLKJ151045	Fuel switch	1
13	QLKJ151046	Outer Frame	1

PROTECTIVE COVER



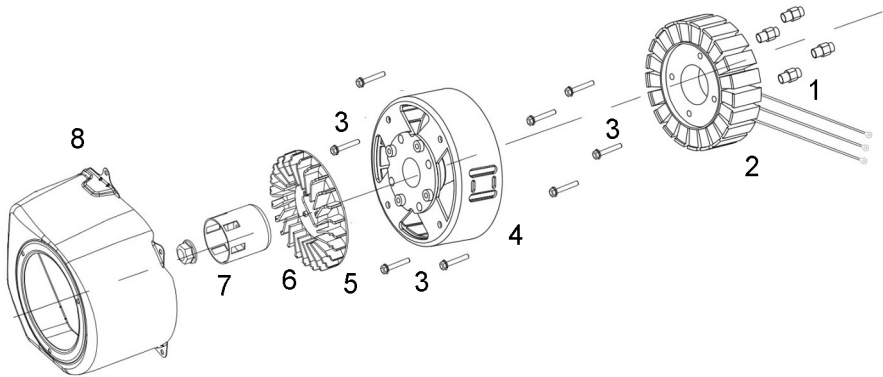
ITEM	PART NUMBER	DESCRIPTION	QTY
1	QLKJ151010	Hex Flange Bolts M6	5
2	QLKJ151018	Self-Tapping Screws M4	6
3	QLKJ151047	Panel	1
4	QLKJ151020	Protective cover	1

CONTROL PANEL



ITEM	PART NUMBER	DESCRIPTION	QTY
1	QLKJ151018	Self-Tapping Screws M4	12
2	QLKJ151019	Rear Cover	1
3	QLKJ151020	Protective Cover	1
4	QLKJ151021	Socket Head Cap Screws M5	1
5	QLKJ151022	Bridge	1
6	QLKJ151023	Copper Wire	1
7	QLKJ151024	DC Protection	1
8	QLKJ151025	Control Panel	1
9	QLKJ151014	X-Head Bolts M5	4
10	QLKJ151026	DC Socket	1
11	QLKJ15YC01	EU Socket	2
12	QLKJ151027	Indicator Light	1
13	QLKJ151028	X-Head Flat Screw M4	8
14	QLKJ15SSCH	Stop Switch / Start Switch	2
15	QLKJ151029	Wire	1
16	QLKJ151010	Hex Flange Bolts M6	5
17	QLKJ151030	Hex Flange Nuts M4	8

GENERATOR ASSEMBLY



ITEM	PART NUMBER	DESCRIPTION	QTY
1	QL94301060802200	Locating Pin (Ø6.3xØ8x22)	4
2	QL31120BF3030200	Stator Assy	1
3	QLKJ151010	Hex Flange Bolt M6	1
4	QL31130CD3031000	Rotor Assy	1
5	QL19511B3010100	Fan	1
6	QL2845116812000	Starter Cup	1
7	QLG166741400000	Nut M14x1.5	1
8	QL1961016811000	Wind Cover	1

DECLARATION OF CONFORMITY



Hemmill Street, Epping, Essex, CM16 4LG

DECLARATION OF CONFORMITY

This is an important document and should be retained.

Product Description: Open Frame Inverter Generator
Model number(s): IG3500AF
Serial / batch Number: 8377125
Date of Issue: 25/03/2020
Notified Body: Societe Nationale DE Certification ET
D'homologation SARL (SNCH)
2a Kalchesbruck
L-1852 Luxembourg
Luxembourg

Technical Documentation Holder: Alan Pond
Clarke International
2a Shrubland Road
London E10 7RB
UK

Conformity Assessment Procedure: to 2000/14/EC Annex VI
Manufacturer: Clarke International
Noise Related Value: 3.2 kW
Measured Sound Power Level: 93 dB
Guaranteed Sound Power Level: 95 dB

IG3500AF Gen.ES DDC (v1) JRV2

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Hemmill 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 directive(s):
2014/30/EU Electromagnetic Compatibility Directive.
2006/42/EC Machinery Directive.
2000/14/EC Noise Emissions Directive, (amended by 2005/88/EC).
2016/1628 Regulation (EU) Emission of Gaseous Particulates (with amendments).
2011/65/EU Restriction of Hazardous Substances, (amended by 2015/863).

The following standards have been applied to the product(s):
EN 60204-2010, EN 55012:2007-04:2009, EN 61000-6-1:2007, EN 12801:2010.

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

The CE mark was first applied in: 2016

Signed:

A.A. Clarke
Director

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