



Colours and appearances may vary

Petrol Powered Inverter Generators

User Manual

[Revision 6.0 February 2020]



READ THIS MANUAL CAREFULLY BEFORE USE – FAILURE TO DO SO MAY RESULT IN INJURY, PROPERTY DAMAGE AND MAY VOID WARRANTY. • KEEP THIS MANUAL FOR FUTURE REFERENCE. • Products covered by this manual may vary in appearance, assembly, inclusions, specifications, description and packaging.

The product is NOT supplied with engine oil, although traces of oil from the manufacturing process may be present. It is essential to add adequate engine oil of the correct type to the engine before use. **Failure to add engine oil will void the product warranty.**

Safety

Safety messages are designed to alert you to possible dangers or hazards that could cause death, injury or equipment or property damage if not understood or followed. Safety messages have the following symbols:

	You WILL be KILLED or SERIOUSLY INJURED if you do not follow instructions.		You CAN be KILLED or SERIOUSLY INJURED if you do not follow instructions.		You CAN be INJURED if you do not follow instructions or equipment damage may occur.
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It is important that you read and understand the instruction manual before use and keep the manual in a safe place for future reference. Safety information presented here is generic in nature – some advice may not be applicable to every piece of equipment.

All safety precautions must be observed to reduce the risk of personal injury when operating the equipment.

The term "equipment" refers to your product, be it electrical mains, battery or petrol engine powered.

IMPORTANT – Handle the equipment safely and carefully.

BEFORE USE - If you are not familiar with the safe operation/handling of this equipment, or are in any way unsure of any aspect of suitability or correct use it for your application, you should complete training conducted by a person or organization qualified in safe use and operation of this equipment, including fuel/electrical handling and safety.

WARNINGS

- Read all safety warnings and all instructions. Failure to follow warnings and instructions may result in electric shock, fire and/or serious injury.
- Never run a petrol engine in confined areas.
- Do not operate the equipment in flammable or explosive environments, such as in the presence of flammable liquids, gases or dust. Engine and equipment may create sparks or heat that may ignite vapours, dust etc
- Keep clear of moving parts.
- This equipment may be a potential source of electric shock if misused.
- Do not operate the equipment if it is damaged, malfunctioning or is in an excessively worn state.
- Do not allow others to use the equipment unless they have read this manual and are adequately trained.
- When using the equipment, basic safety precautions detailed here must always be followed to reduce the risk of fire, electric shock, personal injury and material damage.
- When wiring electrically powered equipment, follow all electrical and safety codes.
- Ensure all power sources conform to equipment voltage requirements and are disconnected before connecting equipment.

General Work Area Safety

Work areas should be clean and well lit. Do not operate the equipment if bystanders, animals etc are within operating range of the equipment or the general work area.

Personal Safety

Keep packaging away from children - risk of suffocation! Operators must use the equipment correctly. When using the equipment, consider conditions and pay due care to persons and property. Prevent unintentional starting of the equipment - ensure equipment and power source switches are in the OFF position before connecting or moving the equipment. Do not carry equipment with hands/fingers touching any controls. Remove any tools or other items that are not a part of the equipment from it before starting or switching on.

Stay alert and use common sense when operating equipment. Do not overreach. Keep proper footing and balance at all times. Do not use equipment when tired or under the influence of drugs, alcohol or medication. This equipment is not intended for use by persons with reduced physical, sensory or mental capabilities.

You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect from serious injury, including eye injury, inhalation of toxic fumes, burns, and hearing loss. Always wear eye protection. Protective equipment such as respirators, non-skid safety shoes, hard hat, hearing protection etc should be used for appropriate conditions. Other people nearby should also wear appropriate personal protective equipment. Do not wear loose clothing or jewellery, which can be caught in moving parts. Keep hair and clothing away from the equipment.

If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of dust collection can reduce dust-related hazards.

General Equipment Use and Care

Do not force the equipment. Use the correct equipment for your application. The correct equipment will perform better and be safer within its design parameters. Do not use the equipment if the ON/OFF switch malfunctions – any equipment that cannot be controlled with the ON/OFF switch is dangerous and must be repaired.

Use the equipment and accessories etc. in accordance with these instructions, considering working conditions and the work to be performed. Using the equipment for operations different from those intended could result in hazardous situations.

Before use, inspect the equipment for misalignment or binding of moving parts, loose components, damage or any other condition that may affect its operation. If damaged, have the equipment repaired by an authorized service centre or technician before use.

Always keep the equipment and accessories (cutting tools, nozzles, bits etc) properly maintained. Keep the equipment, controls and handles dry and free from dirt, oil and grease.

Store the equipment out of reach of children or untrained persons. To avoid burns or fire hazards, let the equipment cool completely before transporting or storing. Never place the equipment in places where there are flammable materials, combustible gases or combustible liquids etc.

The equipment is not weather-proof, and should not be stored in direct sunlight, at high ambient temperatures or locations that are damp or very humid.

Generator Use and Care

WARNINGS

- If the generator is for back-up power to a house etc, it must be connected to the building electrical system by a qualified electrician and must comply with relevant laws and electrical codes. If not connected correctly, use of the generator may present electrocution, electric shock, explosion and fire hazards.
- The generator creates high voltage and current electricity. Do not connect incompatible devices.
- Never insert any object other than compatible connectors into any generator output connector.
- Do not operate the equipment with wet hands or clothing.
- When using the generator, ensure to keep it and all connected cables away from other electrical cables.
- Operate the generator on solid, level surfaces only, with at least 1m (3') between it and other equipment or objects.

General Fuel Safety	General Service Information
 <p>Petrol/fuel/gasoline is extremely flammable – keep clear of naked flames or other ignition sources.</p> <ul style="list-style-type: none"> Do not spill fuel. If you spill fuel, wipe it from equipment immediately – if fuel gets on your clothing, change them immediately Do not smoke near fuel. Always shut off the engine before refuelling. Do not refuel a hot engine. Open the fuel cap carefully to allow any pressure build-up in the tank to release slowly. Always refuel in well ventilated areas. Always check for fuel leakage. If fuel leakage is found, do not start or run the engine until all leaks are fixed. 	<ul style="list-style-type: none"> Have the equipment serviced or repaired at authorized service centres by qualified personnel only. Replacement parts must be original equipment manufacturer (OEM) to help ensure that equipment safety is maintained. Do not attempt any maintenance or repair work not described in this instruction manual. After use, the equipment and components may still be hot – allow the equipment to cool and disconnect spark plugs and/or electrical power sources and/or batteries from it before making adjustments, changing accessories or performing repair or maintenance. Do not make adjustments while the equipment is running. Perform all service related activities under suitable conditions, such as a workshop etc. Replace any worn, damaged or missing warning labels immediately. Do not clean equipment with solvents, flammable liquids or harsh abrasives.

DANGER

Running combustion engines in confined areas CAN KILL IN MINUTES. Engine exhaust fumes contain carbon-monoxide – a deadly gas that you cannot smell or see.



NEVER run a combustion engine in confined areas EVEN IF windows and doors are open. ONLY run petrol engines OUTDOORS and away from doors, windows and vents.

Do not operate the equipment in hazardous locations, such as where there may be a risk of fire or explosions from flammable liquids, gases or dust.

Do not operate the equipment in confined areas where exhaust gases, smoke or fumes could reach dangerous concentrations.

Do not refuel a combustion engine while it is running, on or hot.

Never smoke while refuelling combustion engines or handling flammable substances.

For generators, the electrical output is potentially lethal and must only be connected to a fixed electrical installation by an appropriately licensed person.

Be aware that the equipment may include hazardous components, such as blades, hot surfaces and moving parts.

Handle any flammable substance with extreme caution.

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Applicable Models

This manual applies to the following generators:

F6200Ri 165cc Fuel-Injected 3.2kW Electric Start



F5200Ri 150cc Fuel-Injected 3.2kW



F4200Ri 105cc 2.5kW



G5200i 125cc 2.5kW Electric Start



GT6000 150cc Fuel-Injected 3.2kW



GT4000 105cc 2.5kW



Petrol Powered Inverter Generators

GT3000 53cc 1.7kW



BM-700i 150cc 3.2kW



Parts Identification



Products detailed in this manual may vary in appearance, inclusions, description and packaging from those shown or described. This section shows typical major components common to most petrol powered generators, the position of some components may also vary between models.



No.	Name	No.	Name
1	Control Panel (see Control Panel and Functions)	11	Air Filter Assembly (filter inside)
2	Fuel Filler	12	Fuel Injector
3	Exhaust	13	Choke (on non-fuel-injected models, the choke is accessible through the engine access cover)
4	Spark Plug Access Cover (spark plug inside)	14	Primer (non-fuel-injected models only)
5	Carry Handle	15	Accessories / Tools (not all models may include all or any accessories): Oil Fill Bottle Oil Drain Tube 12VDC Battery Charging Cable Spark Plug Spanner Screwdriver Spark Plug (spare)
6	Engine Access Cover		
7	Starter Cord		
8	Fuel Tap (fuel strainer inside)		
9	Oil Filler/Dipstick		
10	Fuel Filter		

Before Use Checklist



Ensure that you carry out all procedures below before starting the engine or operating the equipment. All procedures described are generic in nature and slight variations between different models may exist. **Failure to follow the checklist and carry out the procedures correctly may result in making the product warranty void.** The product is NOT supplied with engine oil, although traces of oil from the manufacturing process may be present. It is essential to add adequate engine oil of the correct type to the engine before use – see [Checking and Changing Engine Oil](#). **Failure to add engine oil will void the product warranty.**

Video Tutorial:

[Inverter Generator Set-Up](#)



Engine Oil

Four-stroke engines require engine oil in the crankcase for lubrication of internal components. Severe or irreparable damage may occur if the engine is allowed to run without engine oil. The engine oil level requires regular maintenance. Check the engine oil level and ensure that the oil level is at or just under the maximum level indicator.

Some machines may feature an oil level sensor that will prevent the engine being started or automatically stop the engine if the oil level falls below an acceptable level. This system, however, is not to be solely relied upon. **Always check that the engine oil level is at or near the "MAX" indicator before starting the engine.** See [Checking and Changing Engine Oil](#).

Air Filter

The air filter is used to prevent dirt and other particles from possibly entering the engine and causing internal damage to it. The air filter requires regular maintenance.

Always check the air filter before starting the engine. See [Checking, Cleaning and Replacing the Air Filter](#).

Fuel



Petrol/fuel/gasoline is extremely flammable – keep clear of naked flames or other ignition sources. • The engine must be cool before refuelling.

Adequately fill the fuel tank with the correct fuel type.

- Use non-ethanol unleaded petrol (higher RON values will provide best engine performance). Do not use old or contaminated fuel.

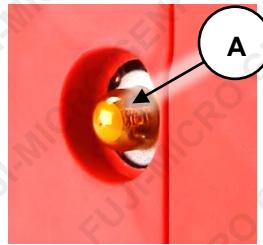
To fill or top up fuel:

1. Place the machine in an upright position on a flat and level surface.
2. Clean the machine around the fuel filler so that no dirt or other material enters the tank when the cap is removed.
3. Remove (rotate left) the fuel filler cap.
4. Using a funnel, carefully fill the tank with fuel. Do not fill above the top of the strainer (if equipped) or otherwise overfill the tank.
5. When finished, reinstall (rotate right) the fuel filler cap until firm. Wipe away any residual fuel from the machine. If fuel has been spilt, move the machine away from the spillage before starting the engine.

Priming the Fuel System

For engines equipped with a fuel primer, it may be necessary to "prime" the fuel system when first used or after running out of fuel before attempting to start the engine. This means removing any air from the fuel line and filling the carburettor with fuel. To prime:

1. Fill the fuel tank with fuel.
2. Locate the fuel primer (A). The primer is a "rubber button" that acts as a pump when pushed and released. It is generally located on the same side of the unit as the fuel tap.
3. Press the fuel primer repeatedly until you feel that fuel is in the primer.



Battery

For electric start and remote control models, the battery is shipped with the unit, but must be connected in order for electric starting and remote control functions to be available.

To connect the battery:

1. Use a screwdriver to remove the battery access cover (A) from the side of the unit. Once removed, the battery and battery cables are accessible.
2. Carefully pull the battery connection cables (B and C) from the compartment and connect them.
3. Carefully tuck the cables back into the compartment, then re-install the battery access cover.



Engine Starting



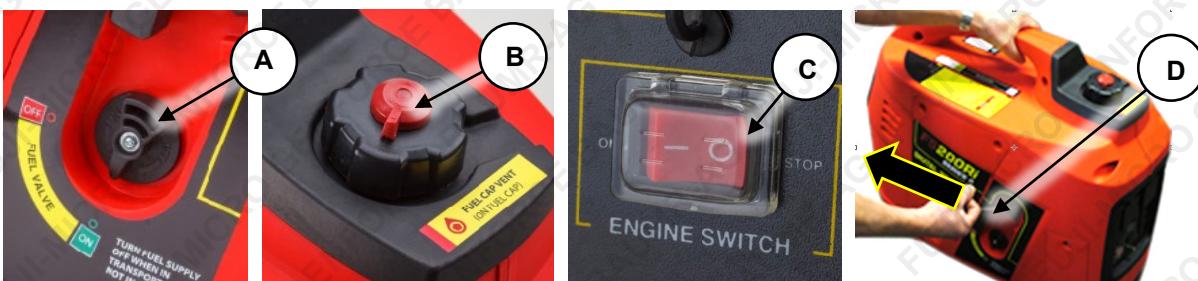
Before starting the engine, ensure that you have followed all procedures described in the [Before Use Checklist](#). The product is NOT supplied with engine oil, although traces of oil from the manufacturing process may be present. It is essential to add adequate engine oil of the correct type to the engine before use – see [Checking and Changing Engine Oil](#). **Failure to add engine oil will void the product warranty.** • Before starting the generator, disconnect all output sockets so that no load is immediately placed on the generator as it starts up.

Different models may feature variations in design; for example, some have different engine types, electric start etc. The following procedures and images are typical to all models, however, the position or appearance of controls etc may vary. All major engine controls are identified on the machine by way of stickers or other markings.

Once the engine is started, the engine speed will automatically regulate depending on connected load. For example, under high loads, the engine will run at higher speed to maintain the required output.

Manual/Pull Starting

- PRIME** – If necessary, [prime](#) the fuel system.
- FUEL** – Place the fuel tap (**A**) in the "ON" position and the fuel filler cap vent (**B**) in the "ON" position.
- CHOKE** – If the engine is cold, [use the choke](#).
- IGNITION** – Place the engine ON/OFF switch (**C**) in the "ON" ("I") position. For key switches (if equipped), insert the key then turn it one position to the right – this is the "ON" position
- START** – Slowly pull out the starter cord (**D**) until you feel it engage with the engine, then pull it out rapidly. Hold the generator handle firmly when pulling the starter cord to prevent the machine toppling over. The engine should start. Allow the starter cord to rewind slowly – do not let it "snap" back.



If the engine does not start, repeat step 3. If the engine fails to start after several attempts, refer to [Troubleshooting](#).

Using the Choke

In cold conditions or if the normal starting procedure is not working, choke may be required to help start the engine:

- For fuel-injected models, use a screwdriver to remove the engine access cover (**E**). For non-fuel-injected models the choke is accessible through the engine access cover (**EE**).
- Move the choke lever (**F**) to the "COLD" or "START" position.
- Start the engine as normal. As the engine warms up, slowly move the choke lever to the "HOT" or "RUN" position.
- For fuel-injected units, re-install the engine access cover.



If the engine cannot be started, check the engine oil level before any other troubleshooting as the low oil safety mechanism may be preventing the engine from starting.



Electric Starting

For models equipped with an electric start option, [connect the battery](#) before attempting to start the unit.



Using the electric start is the preferred starting method. If the battery is flat, use the [manual/pull starting method](#).

1. Follow steps 1 to 4 as per [manual/pull starting](#).
2. **START** – Turn the ignition key fully to the right to, to the "START" position, to engage the starter motor. The engine should start.



If the engine does not start, repeat step 2. If the engine fails to start after several attempts, refer to [Troubleshooting](#).

Remote Starting



The remote electric start feature is not recommended for use if the ambient temperature is low enough to require choke for engine starting. • The battery will be drained if the ignition remains in the "ON" position for extended periods without the engine running.



For models equipped with remote control, to use remote engine start:

1. **PRIME** – If necessary, [prime](#) the fuel system.
2. **FUEL** – Place the fuel tap (A) in the "ON" position and the fuel filler cap vent (B) in the "ON" position.
3. **IGNITION** – Place the engine ON/OFF key switch (if equipped) in the "ON" ("I") position. For key switches, insert the key then turn it one position to the right – this is the "ON" position.
4. **REMOTE OPERATION** – Place the remote control switch (D) (if equipped) in the "ON" ("I") position.
5. **START** – Press (F) on the remote control to engage the starter motor. The engine should start.



If the engine does not start, repeat step 5 onward. If the engine fails to start after several attempts, refer to [Troubleshooting](#).

Stopping the Engine

1. **OUTPUTS** – Turn OFF any connected devices, then unplug them from the generator.
2. **IGNITION** – Place the engine ON/OFF switch or key switch in the "OFF" ("O") position.
3. **FUEL** – Place the fuel tap in the "OFF" position and the fuel filler cap vent in the "OFF" position.

Emergency Stop

Some models may feature an "emergency stop" button on the control panel. Press and hold the button until the engine stops completely.

After using the emergency engine stop, it is recommended to follow the normal engine stop procedure (disconnect connected devices and ignition and fuel OFF).



Remote Stopping

For models equipped with remote control, to use remote engine stop:

1. **OUTPUTS** – Turn OFF any connected devices.
2. **STOP** – Press (A) on the remote control to stop the engine.

After using the remote engine stop, it is recommended to follow the normal engine stop procedure (disconnect connected devices and ignition and fuel OFF).



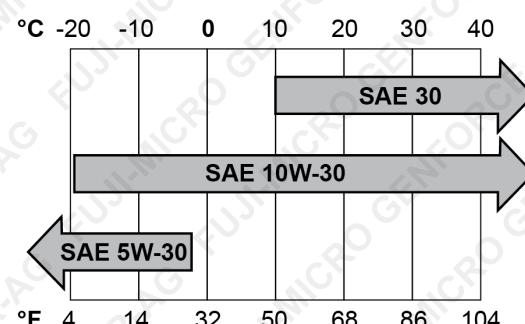
Environmental Considerations

Altitude

If the engine is being used in altitudes at or above 1500m (approximately 5000'), adjustments to the carburettor may be required. This is because there is less oxygen in the air as altitude increases, which effectively "enriches" the ratio of fuel to air going into the engine and the higher the altitude, the richer the fuel mixture becomes. If the engine is being permanently operated at high altitude, it is recommended to have an authorized service centre make the necessary carburettor adjustments. If the engine is used occasionally at altitude (not extreme altitudes), no adjustments should be required, however, a slight decrease in engine performance can be expected.

Temperature

If the engine is being used in extremely cold or hot environments; for example, desert or snow conditions, the type of engine oil may need to be changed to suit environmental temperatures. Oil thickens as the temperature decreases and thins as temperature increases, which means that if the engine oil is not suited to the temperature its ability to properly lubricate the engine may be affected. Use the following chart to determine the correct engine oil:



Operating the Generator



Allowing the generator to run when being overloaded may permanently damage it and/or shorten its service life and may void product warranty.

• Ensure that the generator is grounded (earthed) before using it. • Ensure that any device to be powered by the generator is switched OFF before connecting it to the generator. • Ensure that all devices that will be powered by the generator are electrically safe and functioning normally. If at any time a connected device appears to malfunction, stop or slow down etc, immediately switch the generator and device OFF and disconnect the device. • Do not exceed the rated power output of the generator. Consider the power rating for all connected devices that will be running simultaneously, both AC and DC, and ensure that the sum of all power consumption is no more than the generator rated output with consideration given to actual power output based on altitude and temperature (see [Understanding the Rated Output](#)). For example, 2 x 1200W devices will be acceptable for a 2.5kW rated output generator, however, will overload a 2kW unit. • Do not exceed the rated current for the output socket. For example, do not connect a device that draws 15A to a 10A socket. • If using an extension cable, ensure it is an approved type and has a minimum wire gauge of 1.5mm² up to a cable length of 60m; 2.5mm² up to a cable length of 100m. • For appliances that place high "inductive" loads when being started or stopped (for example, electric motors), consideration should be given to the rated output of the generator and the required inductive load capacity. Rated output equates to approximately 45 to 75% of inductive load capacity. • Do not connect devices in parallel to the generator. • Devices sensitive to input voltage fluctuation should be connected via a suitable surge protector.

Understanding Rated Output

The "rated output" is described as the maximum power that the generator can consistently and reliably provide. The rated output of a generator is based around several factors including altitude, ambient temperature and relative humidity. The specified rated output is calculated at an altitude of 0m, ambient temperature of 25°C and relative humidity of 30%. Deviations from these values will affect the actual output capacity of the generator. For example, if the generator is used at high altitude it will produce less power.

Basically, the higher the altitude, the warmer the ambient temperature and the greater the humidity, the less power can be produced. The following table provides a guideline for calculating actual generator output based on ambient temperature and altitude [note that humidity is ignored here as it has a marginal effect]:

		Ambient Temperature (°C)				
		25	30	35	40	45
Altitude (m)	Power Output Coefficient					
	0	1	0.98	0.96	0.93	0.90
	500	0.93	0.91	0.89	0.87	0.84
	1000	0.87	0.85	0.82	0.80	0.78
	2000	0.75	0.76	0.71	0.69	0.66
	3000	0.64	0.62	0.6	0.58	0.56
	4000	0.54	0.52	0.5	0.48	0.46

Examples:

- At an approximate altitude of 1000m and 30°C ambient temperature, the power output coefficient is 0.85. So, a rated output of 2.5kW becomes 2.5×0.85 , which equates to an actual power output of 2.125kW.
- At an approximate altitude of 2000m and 25°C ambient temperature, the power output coefficient is 0.75. So, a rated output of 2.0kW becomes 2.0×0.75 , which equates to an actual power output of 1.5kW.
- At an approximate altitude of 3000m and 40°C ambient temperature, the power output coefficient is 0.58. So, a rated output of 2.0kW becomes 2.0×0.58 , which equates to an actual power output of 1.16kW.

Calculating Generator Load

Most electrical devices clearly state the required power, usually in Watts (W). This information is generally labelled on the device, or listed in its user manual. If a device lists power consumption figures in amperes (A) only, calculate the wattage by multiplying the ampere rating by the voltage. For example, a 10A device @ 240VAC equates to 2400W (10A x 240V). The sum of all devices required to be operating simultaneously needs to equal or be less than the rated output of the generator.

Many devices require a different load on start-up/shut-down that is often much higher than the actual continuous running requirements. For example, a water pump may require 2000W to start, and once started, requires 500W to continue running. When calculating generator load, the start-up requirements need to be factored in. If the start-up power consumption is not known, the table below lists typical consumption figures for several device types that may assist in determining how many or which devices may be connected and a starting order [that is, start the high consumption devices first, followed by devices with no additional start-up power requirements].

	Incandescent Lamp	Radio	Television	Computer	Laptop	Microwave Oven
Start-up Watts	50 to 150	100 to 200	150 to 500	800	200	1400
Running Watts	50 to 150	100 to 200	150 to 500	800	200	1400
	Slow Cooker	Food Blender	Power Tool	Electric Fan	Deep Fryer	Fluorescent Lamp
Start-up Watts	250	850	1000 to 1500	600	800 to 2000	N/A
Running Watts	250	400	400 to 600	200	600	As Stated
	Iron	Music Player	Refrigerator (small)	Toaster	Vacuum Cleaner	Video Player
Start-up Watts	N/A	N/A	800 to 2000	600	750 to 1800	N/A
Running Watts	1200	30	600	200	600 to 1500	50
	Washing Machine	Water Heater	Water Pump	Coffee Maker	Hair Dryer	Video Game
Start-up Watts	3400	N/A	2500 to 5000	600 to 1500	N/A	N/A
Running Watts	1150	3000 to 4500	500 to 1000	600 to 1500	300 to 1200	20

Example (using the typical values above):

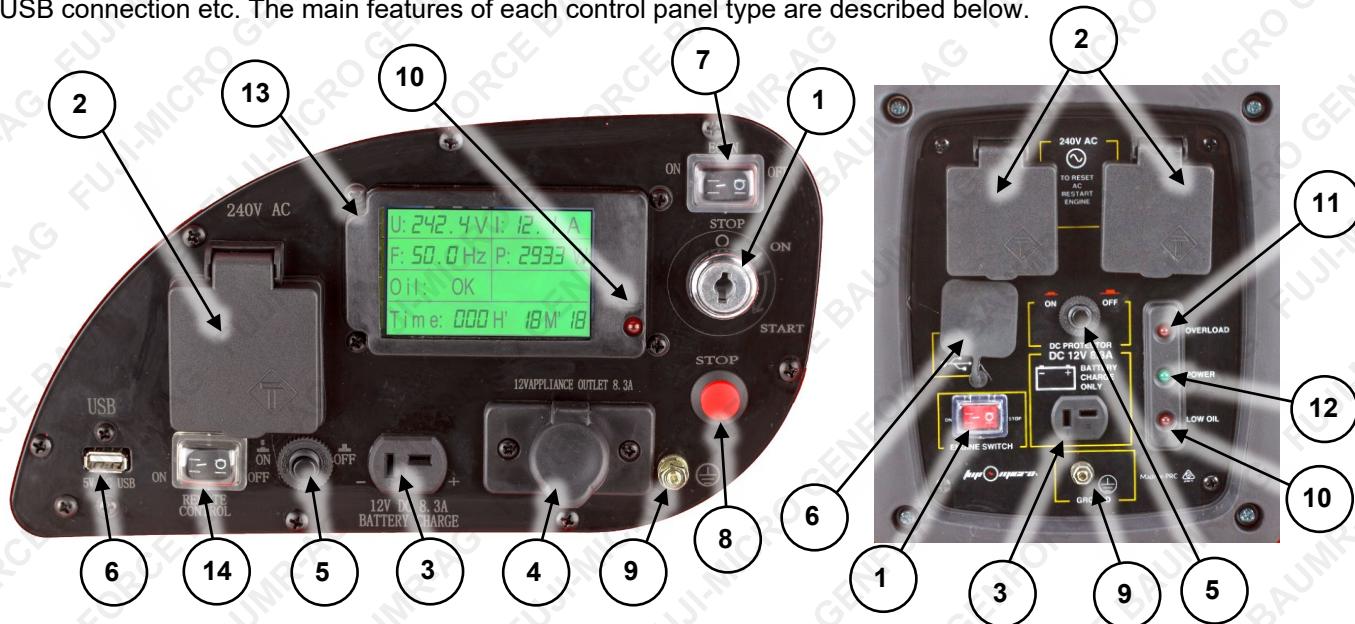
- To run a radio, electric fan and small refrigerator requires an approximate running power consumption of 100W (radio) + 200W (fan) + 600W (refrigerator) = 0.9kW. However, when factoring in start-up power requirements, the equation becomes 100W (radio) + 600W (fan) + 1500W (refrigerator) = 2.2kW.



Many generators have a "maximum" output above that of the rated output, which is allowable for a short period. This is to allow (up to a point) for increased start-up loads that reduce once connected devices are running. Using the above example, a generator with a rated output of 1.5kW and maximum output of 2.2kW would be suitable.

Control Panel and Functions

The generator features a control panel for connecting devices and monitor or understand generator status. The features vary between models; for example, some models have digital displays, several AC connections, USB connection etc. The main features of each control panel type are described below.



No.	Description
1	Engine ON / OFF – Place in the "ON" ("I") position to be able to start the generator. Place in the "OFF" ("O") position to stop the generator.
2	240VAC Output – Used for powering a 240VAC device that connects via a standard 3-pin plug. The generator may feature more than one socket. Lift the cover to access the connector.
3	12VDC Battery Charger Output – Used for charging a 12V battery (charging cable supplied).
4	12VDC Output – Used for powering a 12VDC device that connects via a standard vehicle 12V/cigarette lighter adaptor (cable may be supplied). Lift the cover to access the connector.
5	12VDC Output Protection Reset – Used to reset the 12VDC output over-current protection. If the over-current protection trips, the button "pops out". Press to re-activate the generator DC output.
6	5VDC Output – Used for powering a 5VDC device that connects via a standard "USB" cable (cable may be supplied). Lift the cover to access the connector (if applicable).
7	Economy Mode – Used to lower the engine idle speed when powering low-draw devices (for example, a laptop or charging a battery) and conserve fuel. The generator automatically adjusts the engine speed based on load, as normal.
8	Emergency Stop – Used to stop the engine instead of using the engine ON/OFF switch. Press and hold until the engine stops.
9	Ground Connection – Uses to ground the generator – see Grounding the Generator .
10	Low Oil – Illuminates red if the engine oil level is inadequate and will automatically stop the engine. This safety feature may also prevent the engine being started. If the engine oil level is low, top it up .
11	Overload – Illuminates red when the power being drawn from the generator exceeds its rated power output or a short-circuit has occurred in a connected device. If it remains illuminated, switch the generator OFF and disconnect one or more devices before using the generator again. Ensure that the generator is operating within its rated power output capacity or, in the event of a device short-circuit, have the device repaired. If this indicator remains illuminated after generator start-up or without any devices connected to the generator, switch the generator OFF and have it inspected at an authorized service centre.
12	Power – Illuminates green when the generator is operating normally and the power being drawn from it is within its rated power output capacity.

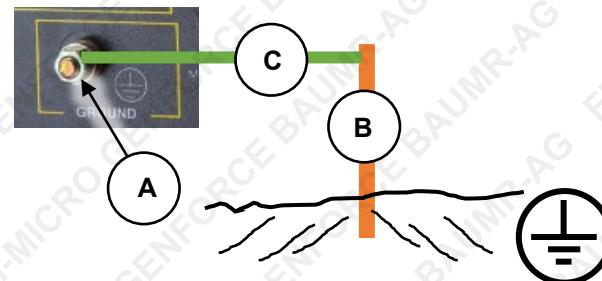
No.	Description
13	<p>LCD – Provides generator information:</p> <p>U – Shows the AC voltage (V) being generated. If the generator is overloaded, this is blank.</p> <p>I – Shows the current (A) being drawn by connected devices. If the generator is overloaded, this is blank.</p> <p>F – Shows the voltage frequency (Hz) being generated. If the generator is overloaded, this is blank.</p> <p>P – Shows the power (W) being drawn by connected devices. If the generator is overloaded, this shows "OVER W".</p> <p>Oil – Shows "OK" if the oil level is adequate; if not, this is blank and the low oil indicator illuminates.</p> <p>Time – Shows the length of the time that the generator has been running. This resets to zero when the generator is stopped</p>

Grounding the Generator



The generator must be properly grounded before use. Failure to ground the generator may create a shock or electrocution hazard.

Connect a length of insulated heavy gauge wire (**C**) between the generator **Ground** connector (**A**) (on the control panel) and a suitable ground point. You can create a ground point by driving a metal rod (**B**) into the ground and connecting the free end of the cable to it.



AC Applications



Observe the following safety precautions when powering 240VAC devices:

- Connect only devices that have power requirements compatible with the generator.
- Connect only devices that have connectors compatible with the generator output sockets.
- Always switch the connected device OFF before connecting to or disconnecting from the generator.
- Do not connect devices in parallel to the generator.
- Devices sensitive to input voltage fluctuation should be connected via a suitable surge protector.

1. Start the generator.
2. Ensure that any device to be connected is switched OFF, then plug the device in to the applicable generator 240VAC outlet.
3. Switch the connected device ON and operate as normal.
4. When finished using the device, switch it OFF, then unplug the device from the generator.



DC Applications



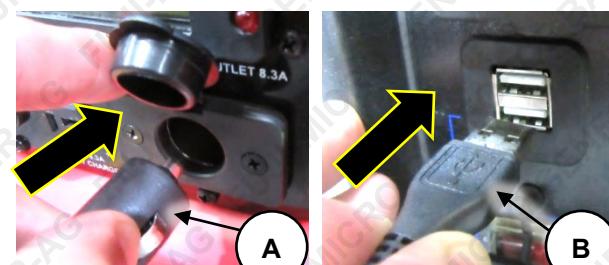
Observe the following safety precautions when powering low voltage DC devices and charging batteries:

- When connecting a battery to the DC output, ENSURE that the polarity (+ to + and – to –) of connections is correct. Failure to do so may represent an explosion hazard and/or damage the generator and/or connected battery.
- The DC circuit is not monitored and does not automatically switch off or self-regulate depending on the voltage of the connected battery. This means that you must independently monitor battery charge status and disconnect the battery before it is over-charged. Over-charging batteries may present an explosion hazard.
- The DC output over-current protection can be tripped in the event of too much current being drawn (see [Specifications](#) for maximum current draw for differing generator models). If this occurs, the DC protection reset switch (on the control panel) will "pop out". Press the switch to reset the protection and reactivate the generator DC output.
- To prevent sparking near the generator, when disconnecting a battery, disconnect the battery charging cable from the battery terminals before unplugging it from the generator DC output socket. Disconnect the **negative** (-) terminal first, followed by disconnecting the **positive** (+) terminal and do not allow the cable ends to touch.
- When charging a battery that is mounted in a vehicle, at the vehicle battery, disconnect the **negative** (-) terminal first, followed by disconnecting the **positive** (+) terminal. Then, proceed to connect the battery charging cable as normal. Ensure that the battery terminals or charging cable terminals do not make contact with the vehicle chassis as sparking may occur.
- Do not attempt to start a vehicle whilst its battery is connected to the generator, as damage to the generator may result.
- Batteries that are being charged may emit dangerous gases. Batteries being charged should be in a well ventilated area and a safe distance from any sources of flame, heat, flammable or volatile materials.
- Batteries contain sulphuric acid. Contact with skin or eyes may cause burns – wash with water immediately (at least 15 minutes if has contacted eyes) and seek professional medical attention. Wear protective clothing and face mask when handling batteries.
- If battery acid is swallowed, administer water or milk and immediately seek professional medical attention.
- All batteries should be kept out of reach of children.

12VDC and 5VDC Devices

Some generators feature a protected 12VDC and or 5VDC "USB" outlets that are used for powering suitable devices. The 5VDC is "pure sine wave", allowing it to be used with "sensitive" devices, such as laptop computers etc.

1. Start the generator.
2. Ensure that any device to be connected is switched OFF, then plug the device/adapter in to the generator 12VDC outlet (**A**) (if applicable), or 5VDC USB connector (**B**) (if applicable), as required.
3. Switch the connected device ON and operate as normal.
4. When finished using the device, switch it OFF, then unplug the device from the generator.



Battery Charging

Some generators feature a protected 12VDC outlet that is used for charging suitable batteries (vehicle batteries etc). Use the supplied cable to connect the battery to the generator.

1. Connect the battery charging cable (**C**) to the generator DC output socket.
2. Connect the battery charging cable to the battery terminals – **red** (**D**) to the battery **positive** (+) terminal, **black** (**E**) to the battery **negative** (-) terminal. Connect the **positive** (+) terminal first.
3. Start the generator.
4. When finished using the DC output, disconnect the battery charging cable from the battery, then disconnect it from the generator.



Maintenance



Running combustion engines in confined areas **CAN KILL IN MINUTES**.

Engine exhaust fumes contain carbon-monoxide – a deadly gas that you cannot smell or see. NEVER run a combustion engine in confined areas EVEN IF windows and doors are open. ONLY run combustion engines OUTDOORS and away from doors, windows and vents. •

Petrol/fuel/gasoline is extremely flammable – keep clear of naked flames or other ignition sources. • The product is NOT supplied with engine oil, although traces of oil from the manufacturing process may be present. It is essential to add adequate engine oil of the correct type to the engine before use – see

[Checking and Changing Engine Oil](#). **Failure to add engine oil will void the product warranty**. • Do not

have the engine running during inspection and maintenance unless specifically required. • The engine should be cool enough to touch before performing maintenance activities. • Some maintenance activities described

may be beyond the scope of some users. For procedures that you are not comfortable with or have the tools or experience for, have the unit serviced by a service centre or qualified technician.

To keep the machine performing at optimal efficiency, regular checks and maintenance is required. Proper care and maintenance ensures best performance and longest service life.

The maintenance schedule below specifies preventative maintenance checks and necessary maintenance tasks and how often they should be performed. The schedule applies to multiple engines; some engines may not include some components, so maintenance on those components is not applicable.



Harsh operating environments such as extreme temperatures, dust etc may necessitate more frequent maintenance. • Maintenance frequencies are based on general factors including a maximum use of approximately 300 hours per year. Apply common-sense when following the maintenance schedule based on your actual use of the product. • Keep reasonable records of maintenance activities for reference. **Failure to follow the maintenance schedule, using incorrect or non-compatible accessories or replacements parts, or general negligence may result in making the product warranty void.**

Maintenance Schedule

Component/Task	Every Use	Frequency – Whichever Comes First			
		First Month or 20 Hours Use	Every 3 Months or 50 Hours Use	Every 6 Months or 100 Hours Use	Every Year or 300 Hours Use
Engine Oil	Check	Replace		Replace	
Oil Leaks	Check/repair as necessary				
Air Cleaner	Check	Clean and replace as necessary			
Spark Plug			Check	Replace	
Valve Clearance					Adjust as necessary
Combustion Chamber					De-coke as necessary
Fasteners	Check/tighten as necessary				
Fuel Tank					Flush and clean
Fuel Line		Replace as necessary			
Fuel Filter		Clean and replace as necessary			
Fuel Strainer	Check				

Checking and Changing Engine Oil

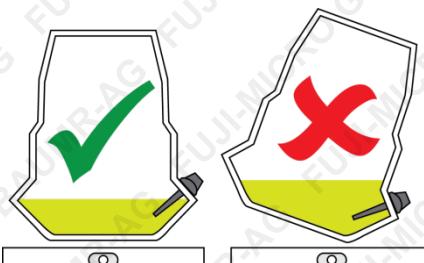


The product is NOT supplied with engine oil, although traces of oil from the manufacturing process may be present. It is essential to add adequate engine oil of the correct type to the engine before use. **Failure to add engine oil will void the product warranty.** • Always check engine oil level when the machine is in an upright position on a flat and level surface. • Do not use used or contaminated engine oils. • Use only engine oils of the correct type (see [Specifications](#)). • Perform the first oil change within the first 20 hours of use. Subsequently, change the oil every 20 hours of use. • It is recommended that the engine be warm, but not hot, when performing oil changes. When the oil is warm it drains faster. • Using dirty or incorrect engine oil may cause engine damage and void any warranty • Always use suitable tools. • Always dispose of used oil in an environmentally responsible manner and according to regulations. • Some engines feature oil level detection, which will prevent the engine being started or automatically stop a running engine if there is insufficient oil. • **Always check the oil level and ensure is at or near the "MAX" indicator before using the machine.**

Four-stroke engines require engine oil in the crankcase for lubrication of internal components. Severe or irreparable damage may occur if the engine is allowed to run without engine oil. The engine oil level requires regular maintenance as per the maintenance schedule.

To check engine oil level:

1. Place the machine in an upright position on a flat and level surface.
2. Remove the 2 screws (rotate left) securing the engine access cover (A), and remove the cover.
3. Clean the machine around the oil filler cap (B) so that no dirt or other material enters the engine when the cap is removed.
4. Remove the oil filler cap (rotate left) until fully unscrewed. The oil level is determined by how far up the dipstick oil can be seen. To check:
 - a. Wipe the dipstick (C) clean with a piece of cloth or paper.
 - b. Insert the dipstick into the oil filler and screw it in.
 - c. Remove and inspect the dipstick – the MAX oil level is approximately the top of the patterned section (X).



5. Ensure that the oil level is at or just under the permissible maximum. If the oil level is low, add additional oil until the correct level is reached. If the oil level is too high, drain some oil until the correct level is reached.
6. When finished, reinstall (rotate right) the oil filler cap until firm. Wipe off any residual oil from the machine.
7. Re-install the engine access cover and secure it with the 2 screws (rotate right).

To change the engine oil:

1. Place the machine on a suitable work surface that is flat and level and have a container ready to catch drained oil.
2. Remove the 2 screws (rotate left) securing the engine access cover, and remove the cover.
3. Clean the machine around the oil filler so that no dirt or other material enters the engine when the cap is removed.
4. Unscrew (rotate left) and remove the oil filler.
5. Insert the supplied oil drain tube (**D**) to the oil filler hole and screw it in (rotate right).
6. Tilt the machine and drain all oil from the engine. Once drained, allow the machine to sit level again.
7. Fill the supplied oil fill bottle (**E**) with approximately 0.5l of engine oil, then insert the nozzle into the oil filler and carefully add oil to the engine until the permissible maximum is reached. [Double- check the oil level](#) (described above).
8. When finished, re-install (rotate right) the oil filler cap until firm. Wipe off any residual oil from the machine.
9. Re-install the engine access cover and secure it with the 2 screws (rotate right).



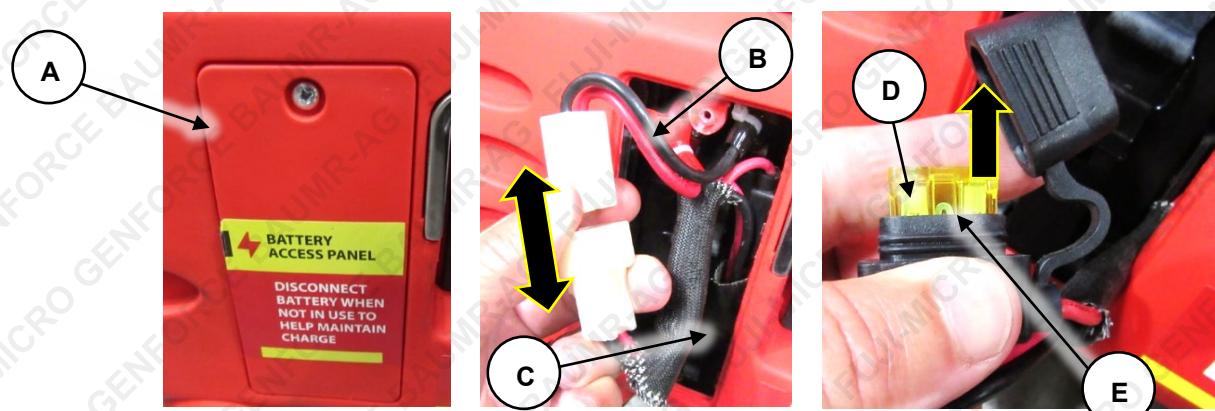
Replacing the Battery

Electric start models feature a 12V 5Ah battery for engine starting. The generator charges the battery during normal operation, however, the battery will eventually fail and require replacement. The battery also has fuse protection on the starter circuit. If the battery does not appear to be functional, check the fuse and replace if blown, before replacing the battery.

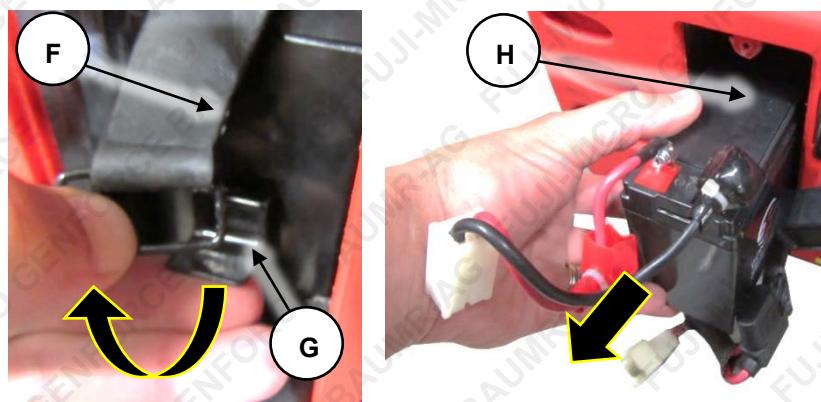
Battery/Fuse Removal/Installation

To remove the fuse/battery:

1. Place the machine in an upright position on a flat and level surface.
2. Remove the screw (rotate left) securing the battery access cover (A), and remove the cover.
3. Carefully pull the battery connection cables (B) from the compartment and disconnect them.
4. On the battery cable, pull the cover from the fuse holder (C) and inspect the fuse (D). If the joining wire (E) between the "spades" of the fuse is broken, the fuse is blown. Replace it with the same type, then push the fuse holder cover back into position.

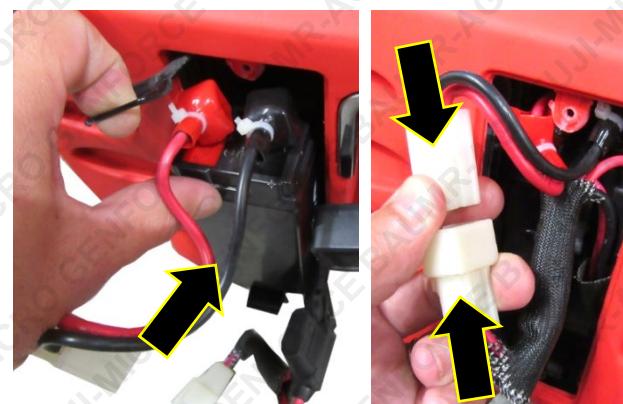


5. Unclip the rubber battery strap (F) from the battery bracket (G).
6. Carefully pull the battery (H) from the compartment.
7. Disconnect the battery cable (I) from the battery terminals (J) using a suitable spanner and screwdriver.



To connect and re-install the battery:

8. Using a suitable spanner and screwdriver, connect the battery cable to the terminals on the replacement battery, ensuring that the **red** wire connects to the **positive (+)** terminal and the **black** wire to the **negative (-)** terminal.
9. Hold the battery strap, then gently slide the battery into the compartment.
10. Connect the battery connection cables. Carefully tuck the cables back into the compartment, then re-install the battery access cover.



Checking, Cleaning or Replacing the Air Filter



Operating the machine without a functional air filter may cause severe engine damage and will void any warranty. • A dirty or oil saturated air filter will restrict air flow, which can be mistaken as fuel system problems. Check the condition of the air filter before adjusting engine idle speed, where applicable. • If the air filter is damaged (torn, broken, disintegrating), replace it.

The air filter is used to prevent dirt and other particles from possibly entering the engine and causing internal damage to it. The engine breather may be connected to the air intake assembly – this may lead to a build-up of oil in the air filter over extended use and is normal. The air filter requires regular maintenance as per the maintenance schedule.

Air Filter Inspection and Cleaning

Inspect the air filter for dirtiness and debris, damage etc. Clean or replace the filter element as necessary. To clean air filters:

- For foam filters, wash the filter in warm water and mild detergent, then rinse and allow to dry.
- For paper filters, use compressed air to blow particles from it. The air should be blown from the engine side of the filter.
- Clean all other air filter assembly components using water and mild detergent, then dry them.
- For foam filters, place a few drops of clean engine oil on the filter then squeeze it a few times to spread the oil through the filter material and remove any excess oil.

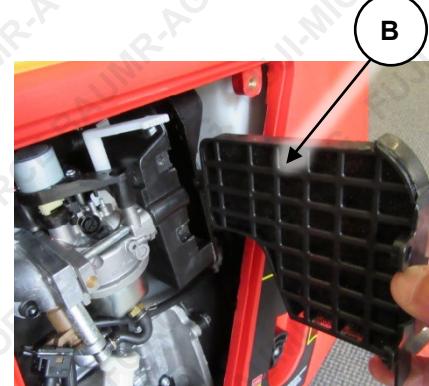
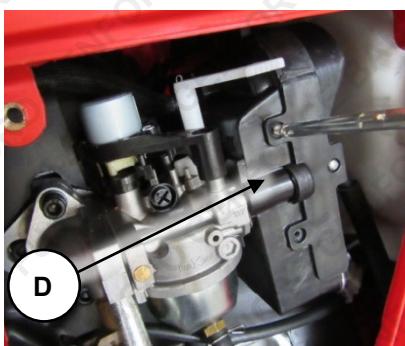
Air Filter Removal/Installation

To remove the air filter:

1. Place the machine in an upright position on a flat and level surface.
2. Remove the 2 screws (rotate left) securing the engine access cover (**A**), and remove the cover.
3. Remove the 3 screws (**E**) (rotate left) securing the air filter cartridge (**B**) to the air intake assembly (**C**).
4. Pull the air filter cartridge out.
5. Unclip the plastic cage (**D**) on the air filter cartridge to remove the air filter element.

To install the air filter:

1. Insert the air filter cartridge into the air intake assembly and secure it with the 3 screws (rotate right). Do not over-tighten.
2. Re-install the engine access cover and secure it with the 2 screws (rotate right).



Maintaining the Spark Plug



If the spark plug is damaged (cracked insulator, broken or eroded electrodes etc), replace it. •
Always use spark plugs of the correct "heat range" - see [Specifications](#).

The spark plug is used to ignite the air/fuel mixture inside the engine. The spark plug has electrodes on one end and an electrical terminal on the other. The spark plug requires regular maintenance.

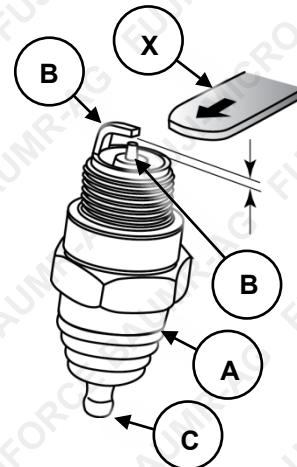
Spark Plug Cleaning and Gap Checking

The spark plug should be checked and cleaned as per the maintenance schedule.

1. Remove any carbon deposits on the spark plug (A) electrodes (B) with a wire brush.
2. Clean the spark plug threads and the electrical terminal (C) on the top.

To check and adjust the spark plug "gap":

1. Use "feeler" or "thickness" gauges (X) to measure the existing gap. The gauge must drag a little when being slid between the electrodes (2) – this means the measurement is fairly accurate.
2. Adjust the gap to within specification (see [Specifications](#)). If the gap needs to be reduced, gently tap the electrode as required. If the gap needs to be increased, use pliers to gently pull the electrode as required.
3. Measure the gap again and ensure it is within the specified range before re-installing the spark plug.



Spark Plug Removal/Installation

1. Lift and slide the spark plug access cover (A) from the generator.
2. Pull the electrical lead (B) from the terminal on top of the spark plug.
3. If accessible, clean the area around the spark plug so that no dirt or other material can enter the engine when the spark plug is removed.
4. Use the spark plug socket (C) to remove the spark plug (rotate left).



To re-install the spark plug:

1. Place the spark plug in its hole and screw it in (rotate right) until "finger tight".
2. Use the spark plug socket to tighten the spark plug approximately one quarter turn (do not over-tighten).
3. Place the electrical lead over the spark plug terminal and push it down so that it connects firmly with the terminal.
4. Re-install the spark plug access cover.

Transportation and Storage



Always ensure that the machine is cool enough to touch before transporting or storing. • Petrol/fuel/gasoline is extremely flammable – keep clear of naked flames or other ignition sources. • Always transport the machine with the fuel tap and engine ON/OFF switch in the "OFF" position. • Drain the fuel tank before transportation or storage.

Preparing for Transport and Storage

- Drain the fuel system by allowing the engine to run until it stops.
- Ensure the fuel tap, engine ON/OFF switch (or key switch, if applicable) and fuel cap vent are in the "OFF" position.
- Avoid exposing the equipment to direct sunlight, particularly during transportation.
- Ensure the equipment is secure and upright during transport.
- Store the unit in a dry, well-ventilated area and out of the reach of children.

Long Term Storage

5. Follow the normal procedures for storage, then:
 - Drain the fuel system. It is advised to have the fuel tank as empty as possible before draining.
 - a. Unscrew (rotate left) the carburettor drain plug. Use a suitable container to catch the draining fuel, and allow the fuel to drain. Store the drained fuel in a properly sealed container.
 - b. Re-install (rotate right) the carburettor drain plug and tighten.
6. Remove the spark plug and put 30ml of clean engine oil into the cylinder. Pull the starter rope slowly to distribute the oil. Re-install the spark plug.
7. Cover the equipment.

Troubleshooting



Running combustion engines in confined areas **CAN KILL IN MINUTES**. Engine exhaust fumes contain carbon-monoxide – a deadly gas that you cannot smell or see.

NEVER run a combustion engine in confined areas EVEN IF windows and doors are open. ONLY run combustion engines OUTDOORS and away from doors, windows and vents. • Petrol/fuel/gasoline is extremely flammable – keep clear of naked flames or other ignition sources. The product is NOT supplied with engine oil, although traces of oil from the manufacturing process may be present. It is essential to add adequate engine oil of the correct type to the engine before use – see [Checking and Changing Engine Oil](#).

Failure to add engine oil will void the product warranty. • Do not have the engine running during inspection and maintenance unless specifically required. • The engine should be cool enough to touch before performing maintenance activities. • Some maintenance activities described may be beyond the scope of some users. For procedures that you are not comfortable with or have the tools or experience for, or if problems persist after following all suggested actions, contact a service centre or qualified technician.

The following information may assist in identifying a problem and rectifying it.

Difficulty starting the engine.

Possible Fault	Action
Lack of fuel	Check that there is fuel in the tank and the fuel tap is in the "ON" position. • To further check if fuel is reaching the carburettor, remove the carburettor drain plug and check if fuel drains.
Engine "OFF"	Ensure engine ON/OFF switch is in the "ON" position.
Not enough engine oil	Check engine oil level and ensure it is at or just below the MAX indicator. After topping up, shake the generator from side to side a little to distribute the oil.
Carbon build-up on spark plug	Remove the spark plug and clean any carbon from the electrodes before re-installing it.
Spark plug faulty	Remove the spark plug, then reconnect the plug lead to it. Place fuel tap in the "OFF" position and the engine ON/OFF switch in "ON" position. Touch the spark plug electrode to a part of the engine crankcase, away from the spark plug hole, and attempt to start the engine – a spark should be visible across the electrodes as the engine is rotated. If no spark is visible, replace the spark plug.
Engine "flooded" with fuel	Place the choke in "HOT" or "RUN" position. Leave the ON/OFF switch in the "OFF" position. Pull the starter cord several times to assist clearing excess fuel from engine before attempting to start engine.

Electric engine start not working.

Possible Fault	Action
Battery fuse blown	Check and replace fuse if required.
Battery no longer serviceable	Replace battery.

Engine starts but does not idle.

Possible Fault	Action
Blocked air filter	Check and clean the air filter.
Idle speed requires adjustment	Adjust idle speed until engine runs smoothly and at a reasonable speed when idling. For fuel-injected models, idle speed adjustment should not be required.

Difficulty restarting the engine after use or engine stops suddenly during use.

Possible Fault	Action
No fuel or engine oil	Check fuel level and ensure adequate fuel is available. For some engines, an engine oil sensor will automatically switch off the engine or prevent starting if a low engine oil level is detected.
Overheating	Allow engine to cool before restarting. If possible, improve engine cooling, such as operating in lower temperatures or in shade etc.
Carbon build-up on spark plug	Remove the spark plug and clean any carbon from the electrodes before re-installing it.
Carburettor blocked	Clean the carburettor.

Reduced engine speed/power during use.

Possible Fault	Action
Blocked air filter	Check and clean air filter.
Carbon build-up in engine and/or entry to exhaust silencer	Remove the engine cylinder head and clean any carbon from the combustion chamber. For the exhaust silencer, remove it and clean any carbon deposits from the exhaust port.
Carbon build-up on spark plug	Remove the spark plug and clean any carbon from the electrodes before re-installing it.
Carburettor blocked	Clean the carburettor.

Generator runs, but connected devices are not receiving power.

Possible Fault	Action
Generator overloaded	Check if Overload indicator is illuminated (red). Stop the generator and disconnect all devices. Start the generator and check that Overload indicator is not lit and that the Power indicator is illuminated green. Connect a device and check that it is being powered properly, if not contact an authorized service centre.

Generator runs and AC outputs OK, but no DC output.

Possible Fault	Action
DC output over-current protection switch tripped	Reset DC over-current protection switch.

Specifications

165cc Engines

Engine Type	4-stroke, single cylinder
Fuel Type	Non-ethanol unleaded petrol (higher RON values provide best performance)
Spark Plug Type	A7RTC
Spark Plug Gap	0.7 to 0.8mm (0.028 to 0.032")
Valve Clearance	Inlet: 0.08mm \pm 0.10mm (0.003" \pm 0.001") Exhaust: 0.1mm \pm 0.12mm (0.004" \pm 0.005")
Oil Type	SAE 10W-30 automotive engine oil recommended for general use
Oil Capacity	Approximately 0.45l (always check level)

150cc Engines

Engine Type	4-stroke, single cylinder
Fuel Type	Non-ethanol unleaded petrol (higher RON values provide best performance)
Spark Plug Type	A7RTC
Spark Plug Gap	0.6 to 0.8mm (0.024 to 0.032")
Valve Clearance	Inlet: 0.08mm \pm 0.10mm (0.003" \pm 0.001") Exhaust: 0.1mm \pm 0.12mm (0.004" \pm 0.005")
Oil Type	SAE 10W-30 automotive engine oil recommended for general use
Oil Capacity	Approximately 0.35l (always check level)

105cc Engines

Engine Type	4-stroke, single cylinder
Fuel Type	Non-ethanol unleaded petrol (higher RON values provide best performance)
Spark Plug Type	A7RTC
Spark Plug Gap	0.6 to 0.8mm (0.024 to 0.032")
Valve Clearance	Inlet: 0.08mm \pm 0.10mm (0.003" \pm 0.001") Exhaust: 0.1mm \pm 0.12mm (0.004" \pm 0.005")
Oil Type	SAE 10W-30 automotive engine oil recommended for general use
Oil Capacity	Approximately 0.35l (always check level)

53cc Engines

Engine Type	4-stroke, single cylinder
Fuel Type	Non-ethanol unleaded petrol (higher RON values provide best performance)
Spark Plug Type	F7RTC
Spark Plug Gap	0.6 to 0.8mm (0.024 to 0.032")
Valve Clearance	Inlet: 0.08mm \pm 0.10mm (0.003" \pm 0.001") Exhaust: 0.1mm \pm 0.12mm (0.004" \pm 0.005")
Oil Type	SAE 10W-30 automotive engine oil recommended for general use
Oil Capacity	Approximately 0.25l (always check level)

Service and Maintenance Record

Use the following tables as a record of machine servicing and maintenance. Keeping accurate records will help ensure better machine service life and may simplify fault diagnosis and any possible warranty claims. Place a tick in the required box for either clean or replace with the date, as required.

	<input type="checkbox"/> Date						
Replace Engine Oil							
Replace Spark Plug							
Replace Air Filter							
Replace Fuel Filter							
Replace Fuel Lines							
Clean Fuel Tank							
Check/Adjust Valve Clearance							
De-coke Combustion Chamber							

	<input type="checkbox"/> Date						
Replace Engine Oil							
Replace Spark Plug							
Replace Air Filter							
Replace Fuel Filter							
Replace Fuel Lines							
Clean Fuel Tank							
Check/Adjust Valve Clearance							
De-coke Combustion Chamber							



Some experts believe the incorrect or prolonged use of almost any product could cause serious injury or death. For information that may reduce your risk of serious injury or death, consult the points below and additionally, the information available at www.datastreamserver.com/safety

- Consult all documentation, packaging and product labelling before use. Note that some products feature online documentation which should be printed and kept with the product.
- Check product for loose / broken / damaged / missing parts, wear or leaks (if applicable) before each use. Never use a product with loose / broken / damaged / missing parts, wear or leaks (if applicable).
- Products must be inspected and serviced (if applicable) by a qualified specialist every 6 months assuming average residential use by a person of average weight and strength, above average technical aptitude, on a property matching average metropolitan specification. Intended use outside these guidelines could indicate the product is not suitable for intended use or may require more regular inspection or servicing.
- Ensure all possible users of the product have completed an industry recognized training course before being given access to the product.
- The product has been supplied by a general merchandise retailer that may not be familiar with your specific application or your description of the application. Be sure to attain third-party approval for your application from a qualified specialist before use regardless of prior assurances by the retailer or its representatives.
- This product is not intended for use where fail-safe operation is required. As with any product (take an automobile, aircraft, computer or ball point pen for example), there is always a small chance of technical issues that needs to be repaired or may require replacement of the product or a part. If the possibility of such failure and the associated time it takes to rectify could in any situation inconvenience the user, business or employee then the product is not suitable for your requirements. This product is not for use where incorrect operation or a failure of any kind, including but not limited to a condition requiring product return, replacement, service by a technician or replacement of parts could cause a financial loss, loss of employee time or an inconvenience requiring compensation.
- If this item has been purchased in error after considering the points above, simply contact the retailer directly for details of their returns policy, if required.

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