HARRINGTON
GENERATORS

Petrol Generators (1.5 – 9.6kW)
Petrol Welders (130 – 250A)

Operation & Maintenance Manual

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3.0 Safety

Read these instructions thoroughly before attempting to operate the machine. If you have any doubts about the safe operation of this equipment, consult the manufacturer or a competent operator. The generator can constitute a hazard to users and nearby personnel and property unless the following precautions are observed during operation:

Precautions

- Ensure that you know how to stop the engine in an emergency

- Exhaust fumes are poisonous and can kill.
    - Do not operate the generator in a confined area.
    - Ensure that the area surrounding the machine has no restrictions that would prevent an adequate flow of clean, ambient air.

- Fuel is highly flammable. When refuelling:
    - Do not run the engine.
    - Do not smoke.
    - Avoid all naked flames.
    - Avoid overfilling the fuel tank.
    - Wipe up any fuel spilt on the machine and move the equipment away from the area where fuel has been spilt.
    - Store fuel in approved containers only and do not expose to direct sunlight.

- Parts of the engine, and particularly the exhaust system will get very hot during use, and will remain hot for some time after the generator has stopped.

- The generator should be operated in an open space with free air flow on all sides, at least 1 metre from other equipment and buildings. The surrounding area should be clear of any combustible material.

- Do not use the equipment with loose or missing components or guards.

- Do not use the equipment in damp or wet conditions.

- The throttle control lever is preset to the correct engine speed and must not be adjusted, otherwise damage to equipment or the generator may be caused and will invalidate the warranty.

- Regularly inspect the condition of trailing cables and integrity of connectors. Only use correctly rated cable and standard plugs of suitable capacity for the application.

- During servicing, follow HSE recommendations regarding the handling and disposal of contaminated oil products.

- When welding, always use a welding mask, gloves and protective clothing to prevent burns/fire from the arc and sparks. Ensure that nearby personnel are protected from direct eye contact with the arc.

Earthing

The earth pins of the output socket(s) are electrically connected to the metalwork of the generator.

The alternator windings are not referenced to earth unless requested, or 110V CTE windings are specified.

Further advice on earthing can be found in the following Health & Safety Executive publications (available from HMSO):

GS27 Protection Against Electric Shock
GS24 Electricity on Construction Site
PM53 Emergency Private Generation

Starting

The throttle control lever is preset to the correct engine speed and must not be adjusted, otherwise damage to equipment or the generator may be caused and will invalidate any warranty.

Check that the generator is located on level ground and in an open space with free air flow on all sides, at least 1 metre from other equipment and buildings, and clear of any combustible material

Check the lubricating oil level and fuel level; top up as necessary. Do not overfill. The engine must be level when checking the oil.

Honda engines: Oil level should reach the edge of the filler neck.

Vanguard engines: Oil level should be as marked on the dipstick.

The generator will not start if the oil level is below a preset level. However, the oil level should never be allowed to fall this low as serious engine damage may still occur.

Check that all equipment is disconnected from the generator.

Move the Fuel Valve to the ON position.

Move the Choke Lever to the CLOSE position. (Do not use the choke if the engine is warm).

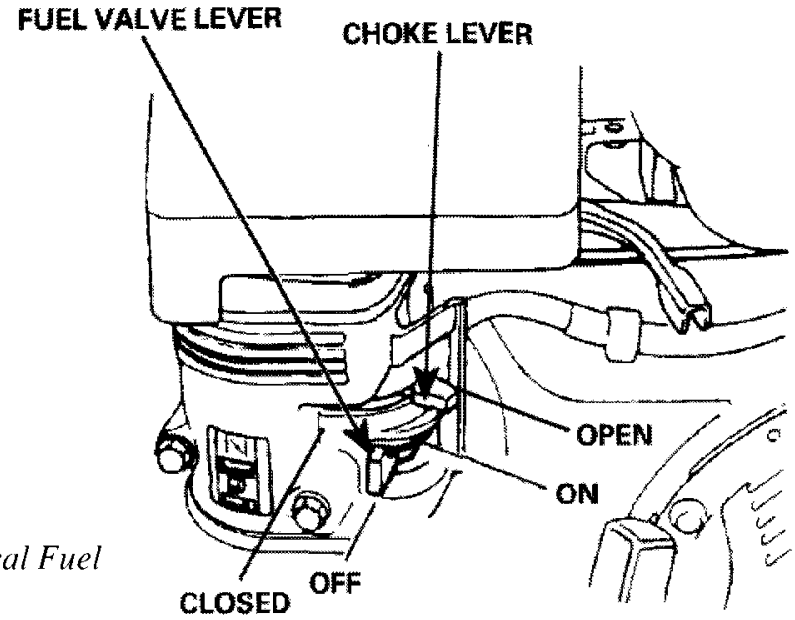
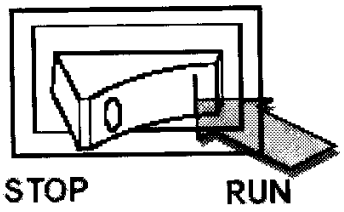


Fig 3. Typical Fuel Controls

Recoil Start: Turn the engine switch to the ON position. Pull the starter handle slowly until resistance is felt, and then pull briskly to start the engine.



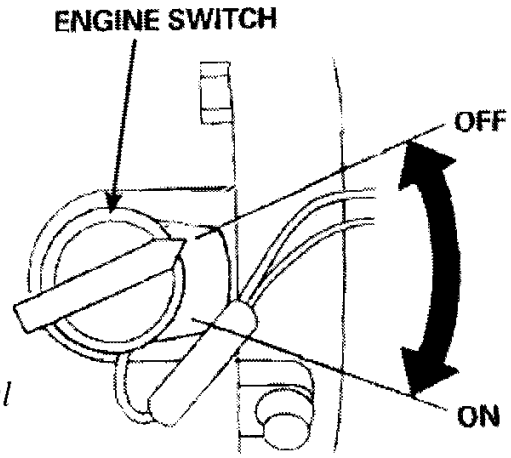


Fig 4. Typical Recoil Start On-Off Switches

Electric Start: Turn the engine switch to the START position until the generator starts. Return the switch to the ON / RUN position.

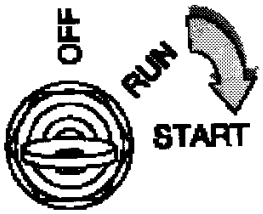
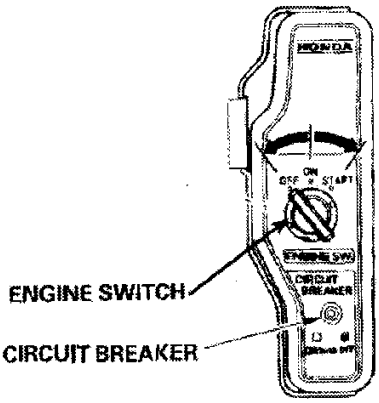


Fig 5. Typical Electric Start On-Off Switches



Move the Choke Lever to the OPEN position.

Allow the engine to warm up for 1 minute before connecting any load to the generator output.

Stopping

Switch off and disconnect the load. Allow the generator to run off load for 2 minutes to cool down.

Turn the Engine Switch to the OFF position.

Move the Fuel Valve to the OFF position.

The generator will automatically shut down if the oil level falls below a preset level. However, the oil level should never be allowed to fall this low as serious engine damage may still occur. Always check the oil level before use and top up as necessary.

Power Output

On Dual Voltage models, select the required voltage with the voltage selector switch. On welders select auxiliary power output with the selector switch.

Connect the equipment to be powered (load) into the socket outlets on the generator control panel.

Do not overload the generator as this will cause overheating, and shorten the life of the generator. Check that the total load from all equipment connected does not exceed the generator rating. The output (auxiliary output only on welders) may be protected against severe overload by circuit breakers, when fitted.

Welding Output

Select welding output with the selector switch. (AC Welders Only).

Connect the welding leads to the appropriate sockets.

Adjust the current control to the required level.

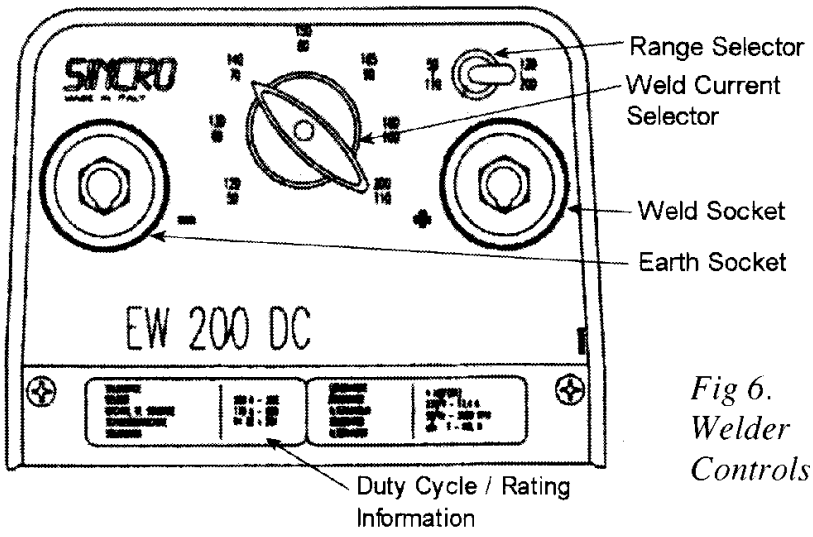


Fig 6. Welder Controls

The welder is designed to give the maximum welding output for a limited time only. Do not exceed the stated duty cycle as shown on the welder control panel (normally 35% at full output), otherwise damage to the generator will be caused through overheating.

A thermal protection device will reduce or switch off the output if the alternator temperature exceeds a preset level. If the thermal protection is activated, switch off any load and leave the generator running so that cooling air is drawn through the alternator. The thermal protection will automatically reset itself after a few minutes when the alternator has cooled down.

Overheating the alternator to the point where the thermal protection operates may damage the alternator, and will reduce the life of the generator

Always use a welding mask, gloves and protective clothing to prevent burns/fire from the arc and sparks. Ensure that nearby personnel are protected from direct eye contact with the arc.

Fuel

Drain and flush the fuel tank every 12 months / 300 hours operation to prevent the build-up of contaminants.

Clean the fuel strainer to prevent build up of contaminants, which will restrict flow and reduce engine performance.

Fuel Tank Capacities:	Standard	Long-Run
Honda GX120	2.5 Litres	11 Litres
Honda GX160 - GX200	3.6 Litres	11 Litres
Honda GX240 - GX270	5.9 Litres	19 Litres
Honda GX340 - GX390	6.5 Litres	19 Litres
Vanguard V-Twin	7.0 Litres	16 Litres

Lubrication Oil

Check the oil level daily and top up as necessary. Check the oil level when the engine is stationary. Do not overfill. The oil level should be as marked on the dipstick when it is NOT screwed into the engine.

Replace the oil every 6 months or 100 hours operation. When changing the oil or topping-up, use oil of grade 10W30 or 15W40.

The oil filter element should be replaced at every oil change (Vanguard engines only).

Drain the oil into a suitable waste oil container and follow HSE recommendations regarding the handling and disposal of contaminated oil products.