



**RENTAL SERIES
STAGE V DIESEL GENERATOR
G18RS V**



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DISCLAIMER

> This Quick Reference Guide is to provide quick and simple information to the Operator and does not include any health and safety aspects. In addition, because of our continual development of machines, features described in this Quick Reference Guide may differ from those on your machine. No errors and emissions be entirely ruled out.

> This Quick Reference Guide **DOES NOT** replace the Operators Manual. You **MUST** read **ALL** the disclaimers and safety and other instructions in the Operators Manual before initially operating this product. Accordingly, no legal claims can be entertained on the basis of the data, illustrations or descriptions in this Quick Reference Guide.

This machine should not be operated by any person who isn't appropriately qualified or had the appropriate training.

Operation of this machine without periodic maintenance could cause it to malfunction.

For more information please contact your JCB Dealer.

DIMENSIONS & VOLUMES

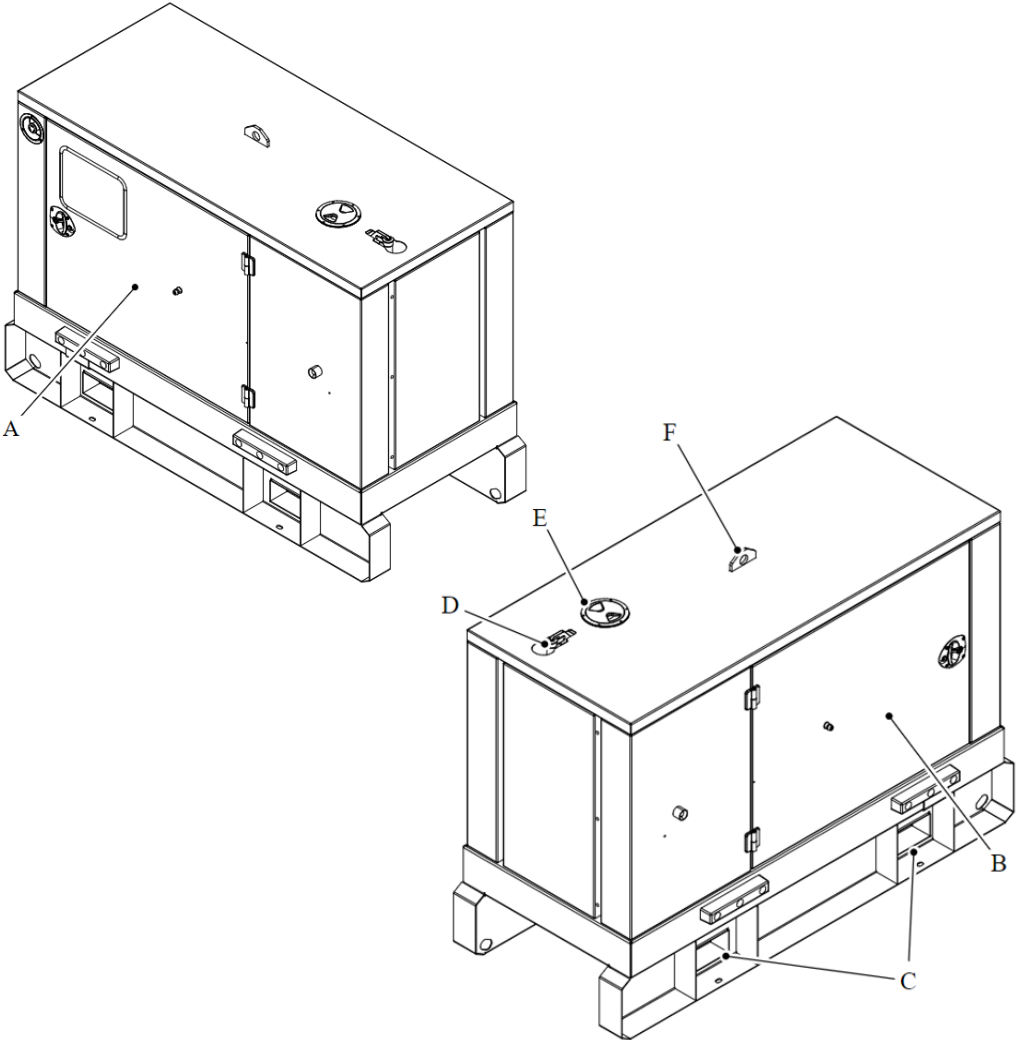
MODEL	G18RS V
3 PHASE – 400V – kW/kVA (Prime Power)	18
3 PHASE – 400V – A	26
DIMENSIONS – mm	L1948 x W835 x 1423
WEIGHT (OPERATING) – kg	950
FUEL TANK CAPACITY – L	100
FUEL CONSUMPTION @ 75% PRP – L/h	3.2
FUEL AUTONOMY - Hrs	31
NOISE LEVEL (7m @ 75% LOAD)	63

Fuel – EN590

Lube Oil – API CH-4

* - wet weight

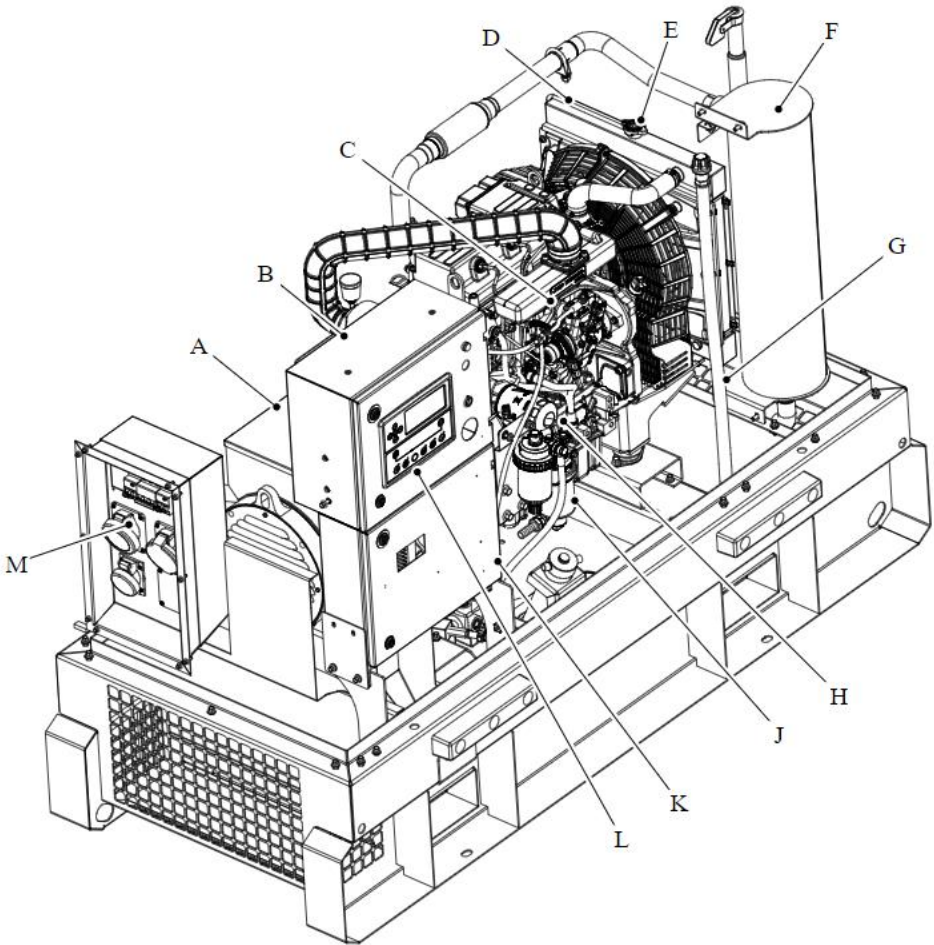
KEY COMPONENTS - ENCLOSURE



A Left Door
C Forklift Pockets
E Coolant Filler Cap

B Right Door
D Exhaust Cover
F Lift Hook

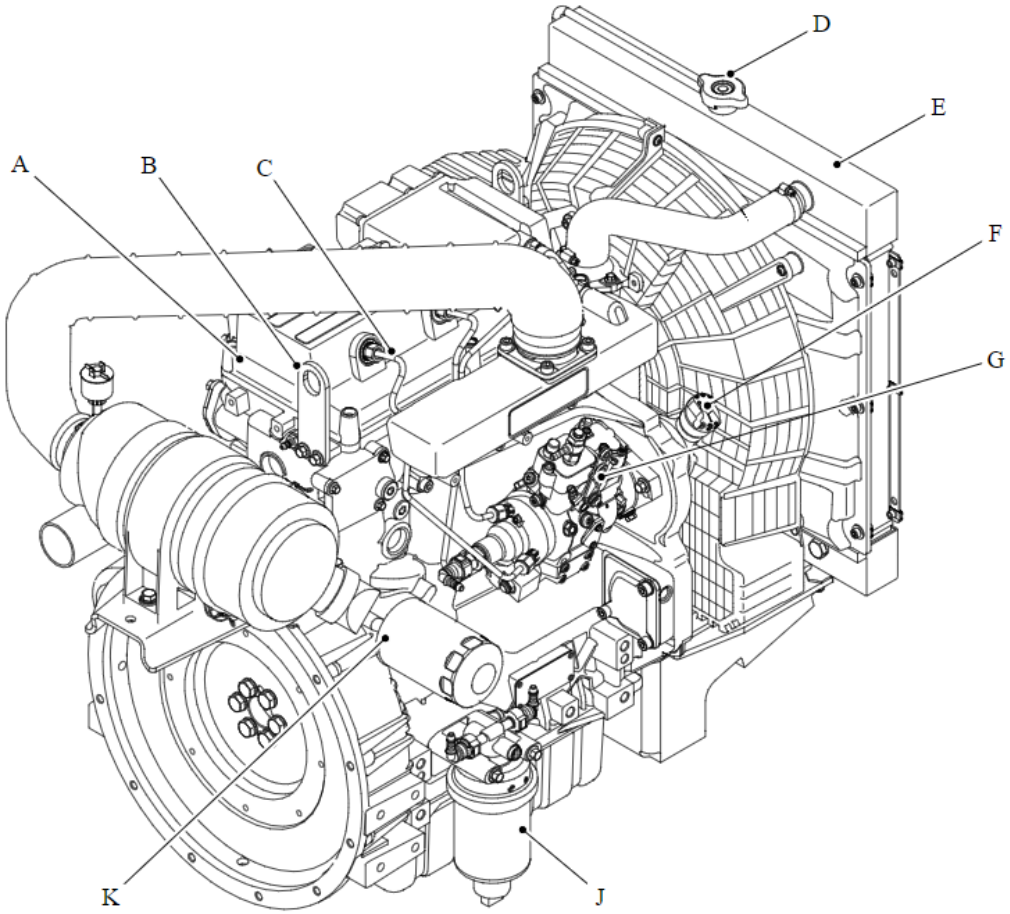
KEY COMPONENTS - GENERATOR



A Automatic Voltage Regulator
B Battery
C Inlet Manifold
D Radiator
E Radiator Cap
F Exhaust Silencer

G Fuel Tank Filler Breather
H Engine Oil Filter
J Fuel Filter / Water Separator
K Data Plate
L Control Panel
M Socket Box

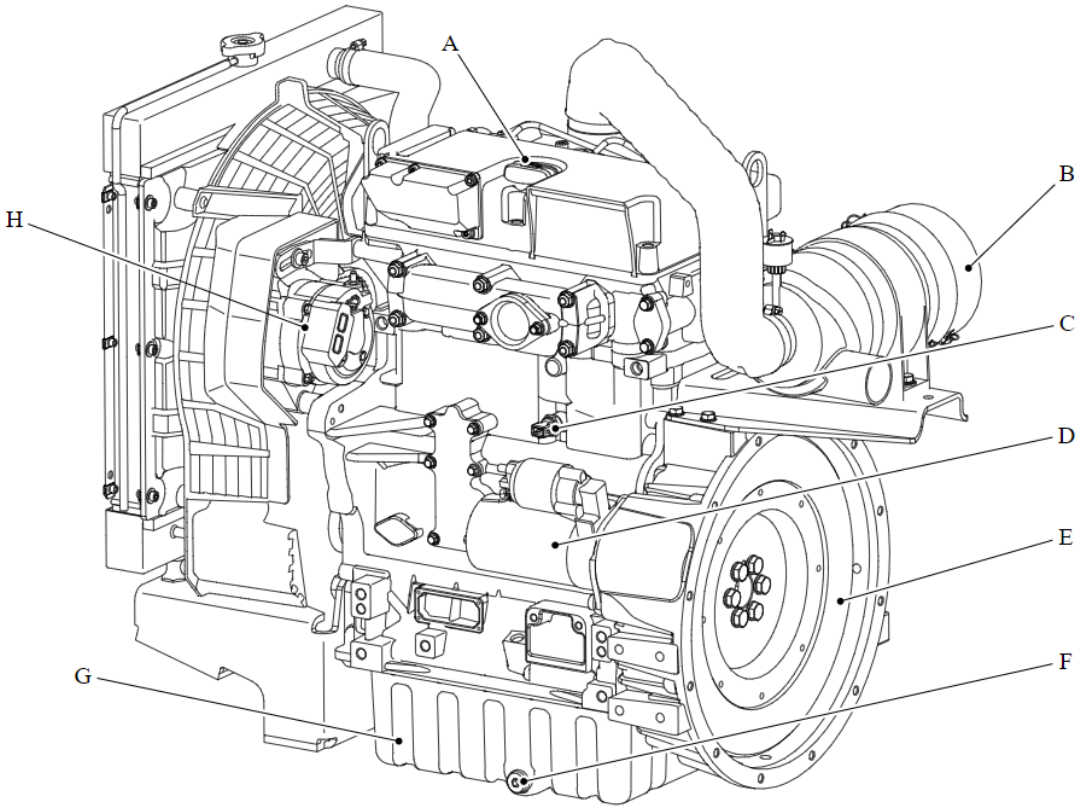
KEY COMPONENTS - ENGINE



A Rocker Cover
B Lifting Eye (engine only)
C Fuel injectors
D Radiator cap
E Radiator

F Oil filler cap
G High Pressure Pump
H Fuel Filter / Water separator
J Oil Filter

KEY COMPONENTS - ENGINE



A Oil Filler Cap

B Air Filter

C Oil Pressure Sensor

D Starter Motor Assembly

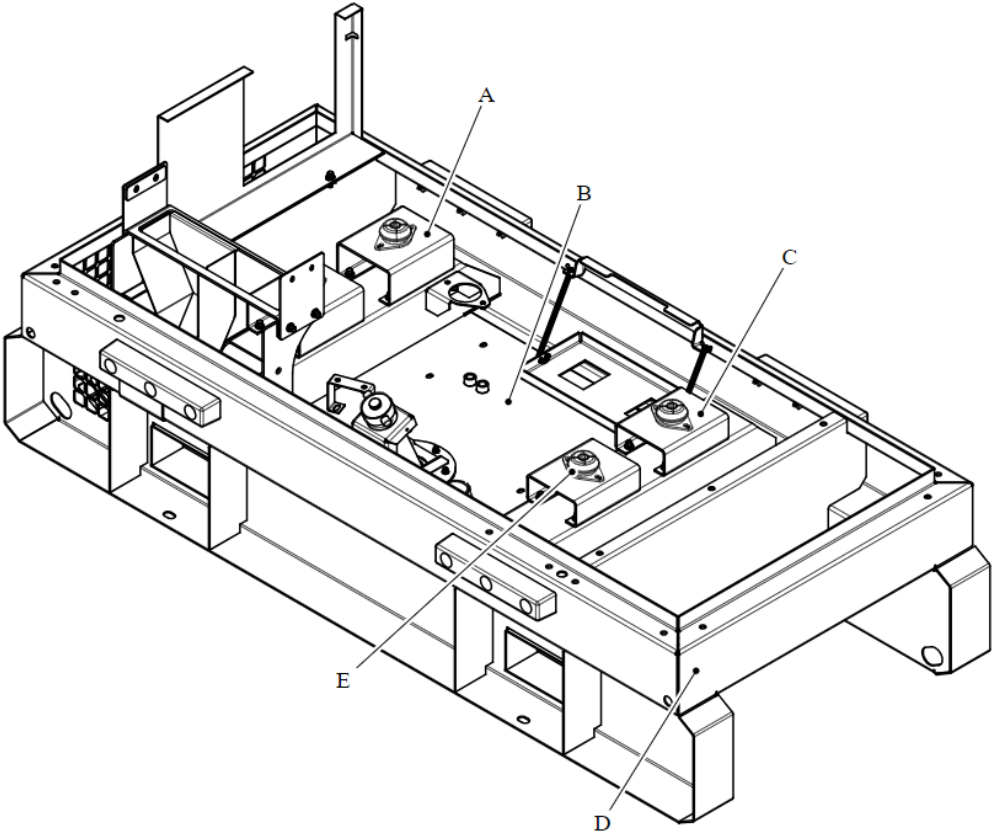
E Oil Drain Plug

F Oil Sump

G Alternator

H Fuel Filter / Water separator

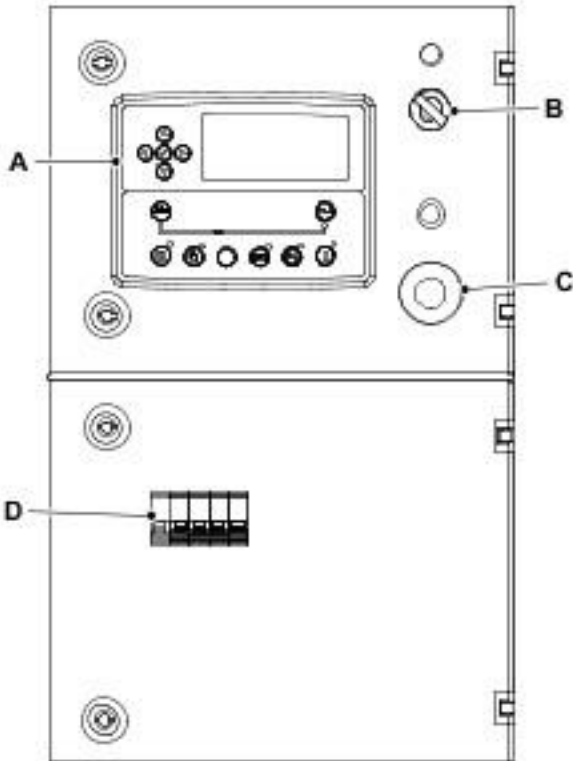
KEY COMPONENTS - SKID



- A Alternator Mounting Plate
- B Fuel Tank
- C Engine Mounting Plates
- D Base Frame
- E Generator anti-Vibration Mount

KEY COMPONENTS - CONTROL PANEL

DSE 7310



- A Digital Controller (DSE 7310)
- B Digital Controller ON/OFF Switch
- C Hour Counter
- D Main Power Supply MCB (Miniature Circuit Breaker)

GENERAL CHECKS

Before Starting the Engine

After correct installation of the unit and the wiring, the generating set must be fully checked over before first starting can be attempted. Points to check include:

- Make sure that the battery isolator is at 'off' position before carrying out any checks.
- Check all belts, guards and panel covers are firmly secured.
- Check the installed wiring to ensure all connections are firmly installed in the correct position, and that wires are in good condition.
- Make sure that the battery connections are secure and polarity of connections are correct.
- Ensure that there is fuel in the fuel tank.
- If the machine has not been run previously, if it has run out of fuel or if the fuel supply has been reconnected then the fuel system must be primed prior to starting. Check for fuel leaks during this process.
- Check level of coolant in machine radiator, and top-up if low.
- Check hoses for damage or loose clamps.
- Check level of engine oil using dipstick.
- Check fuel filter/water separator for presence of water or contaminants.
- Check the position of the 3-way valve to correct fuel source. Do not run the generator with the 3-way valve set to the 'off' position (if applicable).
- Visually inspect the engine and alternator for any signs of damage, water, oil or fuel leaks.
- Make sure that all supplied documents are kept in the document holder case.
- Ensure that machine intake and outlet air vents and grills are not obstructed or blocked in any way to allow good airflow through the machine.
- Check that the engine intake air filter is correctly fitted, and that there are no obstructions to the incoming air.
- Make sure that the alternator windings and assembly are not damp, or dirty. Failure to do so could result in damage to the alternator windings. If windings are observed to be damp/dirty contact your JCB Dealer.
- Make sure that all the engine access doors are closed and secured.
- With the exception of emergency power generators, the engine should be warmed up with a reduced load before applying the full load.

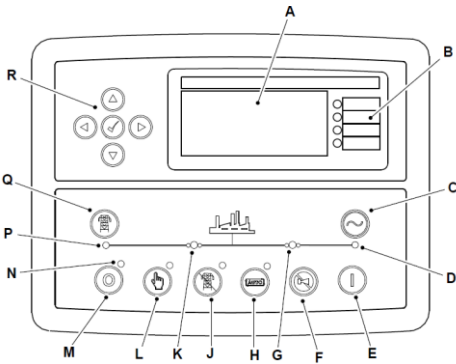
Checks After Running

Ensure that the electrical load is switched OFF before stopping the engine.

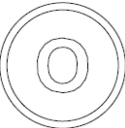


- Check that battery isolator is at 'off' position.
- Fill the fuel tank. Make sure that the filler cap and the area round the filler opening are clean to avoid contamination of the fuel.
- Make sure that all the engine access doors are closed and secured.
- If there is a risk of freezing, the cooling system must contain the correct antifreeze.
- At temperatures below 0°C: Prepare for the next start by connecting the engine heater.

Coolant should be topped up when the engine is stopped. Make sure that enough time is allowed for the engine/coolant to cool before the radiator cap is removed

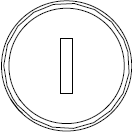
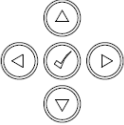
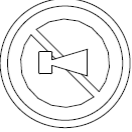
CONTROL PANEL – DSE 7310



- A** Module display
- B** Four configurable status LED (Light Emitting Diode)
- C** Transfer to generator - manual mode only (not used)
- D** Generator available LED
- E** Start button
- F** Alarm mute and lamp test
- G** Generator breaker LED (not used)
- H** Auto mode
- J** Test mode (not used)
- K** Mains breaker LED (not used)
- L** Manual mode
- M** Stop/reset button
- N** Selected mode indication LED
- P** Mains available LED (not used)
- Q** Transfer to mains - manual mode only (not used)
- R** Module display navigation button

	<p>This button places the module into its STOP/RESET mode. This will clear any alarm conditions for which the triggering criteria have been removed. If the engine is running and the module is put into STOP/RESET mode, the module will automatically instruct the generator to unload ('Close Generator output' becomes inactive. In STOP/RESET mode the generator remains at rest.</p>
	<p>This button places the module into its MANUAL mode. Once in MANUAL mode, the module responds to the start button to start the generator and run it off load. The MCCB need to be closed manually.</p>
	<p>This button places the module into its AUTO MODE. This mode allows the module to control the function of the generator automatically. The module monitors numerous start requests via digital input, PLC and MSC link and when one has been made, the set is automatically started. Once the generator is available, the module automatically instructs the generator to synchronise and once in sync, to be place the generator on load ('Close Generator Output' becomes active). Upon removal of the starting signal, the module starts the Return Delay Timer and once expired, the load is automatically ramped off the generator and then it is taken off load ('Close Generator Output' becomes inactive). The generator then continues to run for the duration of the Cooling Timer until it stops. The module then waits for the next start event.</p>

CONTROL PANEL – DSE 7310

	<p>This button is only active in the STOP/RESET mode, MANUAL mode. Pressing the Start button in Stop/Reset Mode powers up the engine's ECU but does not start the engine. This can be used to check the status of the CAN communication and to prime the fuel system</p>
	<p>Used for navigating the instrumentation, event log and configuration screens.</p>
	<p>Used to silence the audible alarm in the controller, de-activates the audible alarm output (if configured) and illuminates all of the LED on the module's fascia as a lamp test function.</p>

CONTROL PANEL - DSE

Operation

Single generator, controlled manually through its genset controller. Load is monitored by the operator.

Starting Procedure

Perform all the pre-start checks before starting the generator.

Turn ON battery isolator

1. Make sure ALL power output supply MCCB's are switched off.
2. Check that the emergency stop button is fully out, if necessary twist to reset the button.
3. Complete all pre-start, system and engine checks.
4. Turn on the Digital Controller (DC) switch to power the DSE Controller.
5. Wait for few seconds, to allow the controller to power up and display to stabilise.
6. Make sure that the power on LED (Light Emitting Diode) is illuminated on earth leakage trip and there is no trip active where required.
7. Press the stop/reset button on DSE to clear any elapsed alarms
8. When ready "Press the Manual mode button" on DSE controller.
9. When ready "Press Start button" and the machine will start
10. The Generator will attempt three start cycles before registering a fault / alarm
11. The engine will run up to speed and stabilise.
12. Check that the machine operation is correct using the screen information.
13. Make sure the power on LED is illuminated on earth leakage trip and there is no trip active.
14. Manually turn on the main power supply MCCB.
15. Turn on any socket MCCB's that may be fitted and required .
16. The generator can now be loaded.
17. If the earth leakage relay trips at this point consult the site electrical installation engineer.

For synchronising instructions using the DSE8610 controller, please consult the operators manual or contact your local dealer.

CONTROL PANEL - DSE

Operation

Single generator, controlled manually through its genset controller. Load is monitored by the operator.

Stopping Procedure

Perform the procedure below to stop the generator:

1. To stop the generator, remove any electrical loads.
2. Turn the main power supply MCCB to off position.
3. Press the stop button the generator will now stop after a cool down period .
4. Turn Off the Digital Controller (DC) switch
5. Turn Off battery isolator after a short time period
6. Ensure generator is secured and all doors are locked

IMPORTANT

Before Stopping

1. Check with other personnel on the job site and let them know that power is being turned off.
2. Make sure that the power shutdown will not create any hazards by turning off site critical or life safety devices that may need to be kept on.

BATTERY ISOLATOR

The battery isolator switch is used to disconnect the battery from the machine electrics. The switch must be turned to the off position if any maintenance work is to be performed on the machine. Some machine systems perform shut down cycles after the engine stops. Wait until shut down cycles are complete before setting the battery isolator switch to the off position. At the end of a working cycle or if the machine is being left unattended and the lights are not required, the battery must be isolated.

Disconnect

If the machine has an electronically controlled engine, you must wait a period of time before you isolate the battery. This is to allow the ECM (Engine Control Module) to shutdown correctly. The time period starts when you turn the ignition off. Check the isolator switch label and the operators manual for the correct time period.

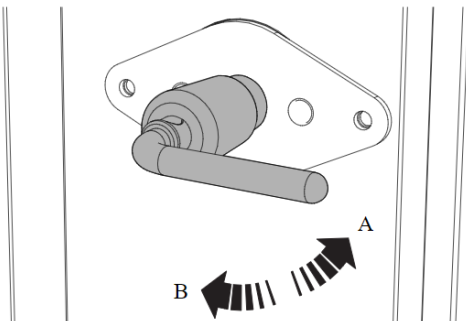
In the event of an emergency, remove the isolator key without waiting.

1. Wait for the specified duration after the engine is turned off before you isolate the battery (60 s).
2. Make the machine safe.
3. Turn the ignition to the off position.
4. Wait for the engine ECM to shutdown correctly (if installed).
5. Get access to the isolator key.
6. Turn the battery isolator key in the indicated direction and remove.

Connect

Before you start the engine or use the machine electrics, the battery isolator key must be installed and switched on.

1. Make sure the ignition is set to off.
2. Insert the battery isolator key and turn in the indicated direction.



Battery Isolator (where fitted)

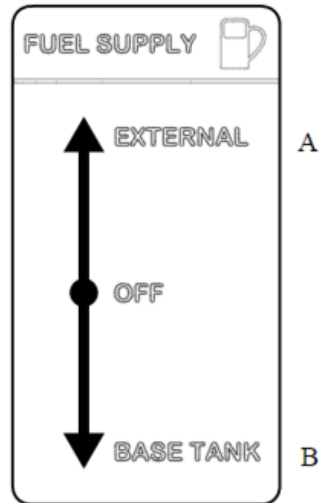
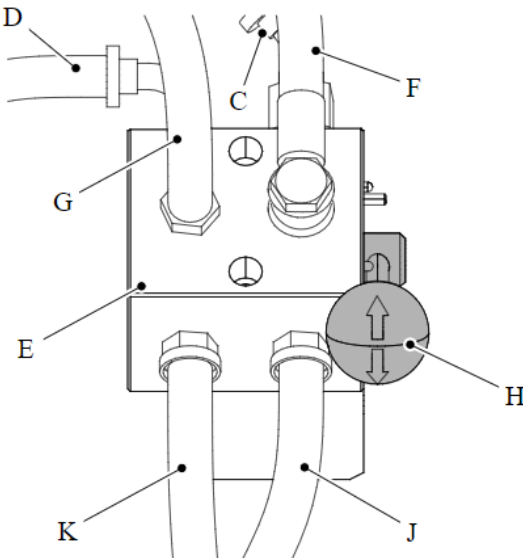
- A. Off Position
- B. On Position

FUEL CONNECTIONS (WHERE FITTED)

The optional 3-Way Fuel Valve allows the generator to be connected to feed and return to a remote bulk tank.

The selection lever dictates if the engine will feed from either the base tank or bulk tank. This selection lever should be fully engaged in the chosen position.

Please consult the manual for details of maximum distances and acceptable elevation of bulk fuel tanks.



A External tank

B Base tank

C Forward line (fuel tank suction to 3 way valve)

D Return line (3 way valve outlet to fuel tank)

E 3 way fuel valve

F Forward line (3 way valve to lift pump inlet)

G Return line (engine return to 3 way valve)

H Direction lever

J Forward line (External fuel tank suction to 3 way valve)

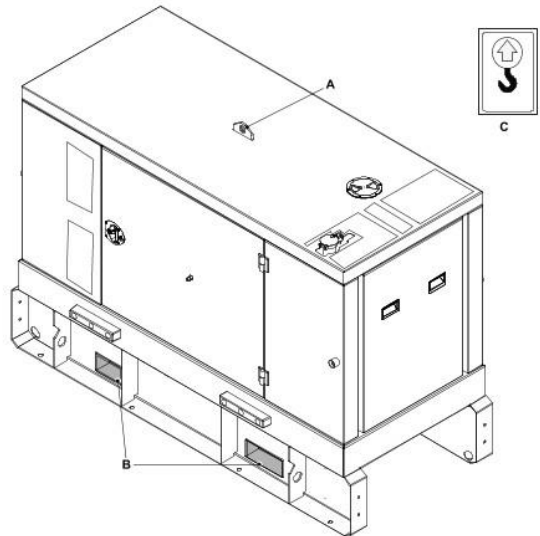
K Return line (3 way valve outlet to external fuel tank)

LIFTING

The generating set should only be lifted using the designated lifting points or the fork pockets where provided.

Do not lift the unit by the alternator or engine lifting eyes. These are designed only to carry the weight of the specific unit (engine or alternator) and not for the weight of the fully assembled generating set.

- A Lifting Eye
- B Fork Pockets.
- C Lifting Point Decal



For movement on site the optional fork pockets enable the generating set to be lifted and shifted by forklift or telescopic handler. The fork pockets are sized and spaced to allow lifting by equipment with a standard fork carriage.

IMPORTANT

Always ensure that lifting equipment is rated to lift the load. Weights are shown on the generator rating plate on the side of the control panel. These weights exclude fuel, and while both the fork pockets and lifting frame are rated to allow lifting including fuel, the operator needs to ensure that they have adequate lifting capacity.

REFUELLING

WARNING Fuel is flammable, keep naked flames away from the fuel system. Stop the engine immediately if a fuel leak is suspected. Do not smoke while refuelling or working on the fuel system. Do not refuel with the engine running. Completely wipe off any spilt fuel which could cause a fire. There could be a fire and injury if you do not follow these precautions.

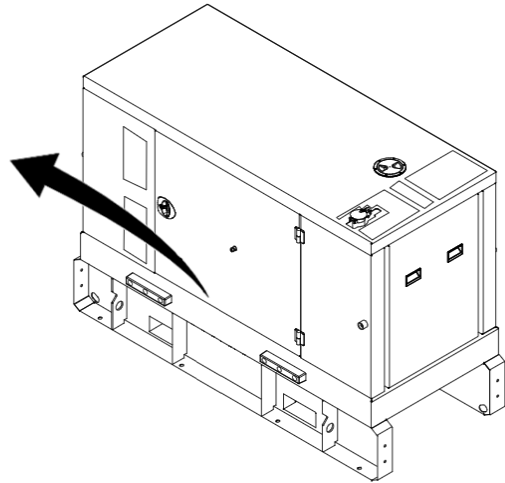
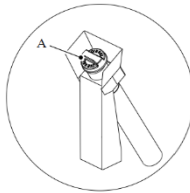
WARNING Switch off your mobile phone before entering an area with a potentially explosive atmosphere. Sparks in such an area could cause an explosion or fire resulting in death or serious injury.

Switch off and do not use your mobile phone when refuelling the machine.

CAUTION Spilt fuel may cause skidding and therefore accidents. Clean any spilt fuel immediately.

When filling with fuel, choose a well aired and ventilated area.

Important: Consult your fuel supplier or JCB dealer about the suitability of any fuel you are unsure of.



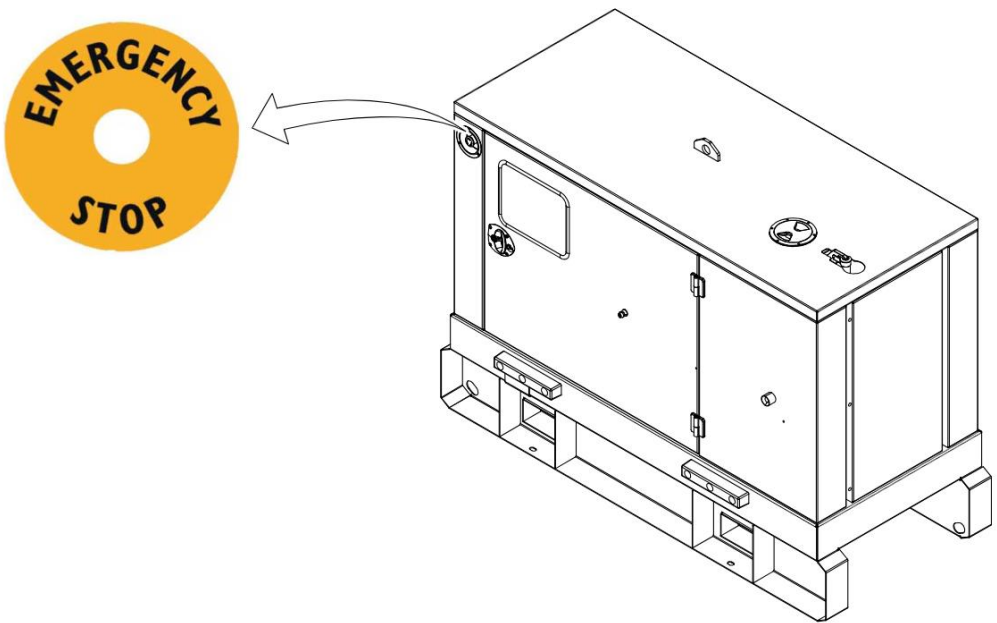
A Fuel filler cap

1. Open the rear right door to get access to the fuel tank filler cap.
2. Remove all unwanted material around the fuel cap.
3. Remove the fuel cap.
4. Add the fuel through the filler neck as necessary.
5. Fuel level can be seen on the gauge installed on the top of the fuel tank.
6. Install the fuel cap.

EMERGENCY STOPS

A machine isolation button/emergency stop button is mounted externally on the canopy. If pressed, all machine systems will stop completely.

Use the emergency stop button in the case of an emergency or if the machine becomes unsafe and does not shutdown automatically.



NOTE: Activation of either of the emergency stop buttons will put the generator into a fault mode.

As well as manually resetting the depressed emergency stop button you will need to clear the fault from the controller.

This is normally achieved by pressing the STOP/RESET button. This can be clarified in the Control Panel section of your Operators Manual

MAINTENANCE SCHEDULE

Interval (h)	Calendar Equivalent
10	Daily
50	Weekly
500	Six Months
1000	Yearly
<input type="radio"/>	Service task can be completed by a competent operator. Details of how to complete the task are given in the operators manual
<input type="checkbox"/>	We recommend that a Service Engineer completes the service task. Details of how to complete the service task are given in the Service Manual

	Operation	Interval (Hours)			
		10	50	500	1000
Visual Inspection	Overall visual check	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Control panel	Check operation	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety decals	Check condition	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emergency stop switches	Check operation			<input type="checkbox"/>	<input type="checkbox"/>
Earth leakage RCD & MCB	Check operation			<input type="checkbox"/>	<input type="checkbox"/>
External power socket box	Check condition			<input type="checkbox"/>	<input type="checkbox"/>
Battery terminals and voltage	Check			<input type="checkbox"/>	<input type="checkbox"/>
Control panel events history	Check			<input type="checkbox"/>	<input type="checkbox"/>
Bus bar cover safety switch	Check operation			<input type="checkbox"/>	<input type="checkbox"/>
Alternator and engine mounting bolts	Check tightness			<input type="checkbox"/>	<input type="checkbox"/>
Bus bar terminals	Check tightness			<input type="checkbox"/>	<input type="checkbox"/>
Machine earth connection	Check condition			<input type="checkbox"/>	<input type="checkbox"/>
Engine and controller harness	Check condition & connections			<input type="checkbox"/>	<input type="checkbox"/>
Oil level	Check	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil & filter	Change			<input type="checkbox"/>	<input type="checkbox"/>
Coolant quality and level	Check	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air filter	Check			<input type="checkbox"/>	<input type="checkbox"/>
Air cleaner outer element	Change				<input type="checkbox"/>
Dust valve operation	Check			<input type="checkbox"/>	<input type="checkbox"/>
Cooling pack	Check			<input type="checkbox"/>	<input type="checkbox"/>
Engine fuel filter	Change			<input type="checkbox"/>	<input type="checkbox"/>
Front End Accessory Drive (FEAD) Belt tension	Check			<input type="checkbox"/>	<input type="checkbox"/>
FEAD trapezoidal belt	Change			<input type="checkbox"/>	<input type="checkbox"/>
All Hoses - Condition	Check			<input type="checkbox"/>	<input type="checkbox"/>
Engine Mounting Bolts for Tightness	Check			<input type="checkbox"/>	<input type="checkbox"/>
Fuel Water Separator	Drain/Check		<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
Primary fuel filter	Change			<input type="checkbox"/>	<input type="checkbox"/>
Secondary fuel filter	Change			<input type="checkbox"/>	<input type="checkbox"/>
Service regeneration	Check			<input type="checkbox"/>	<input type="checkbox"/>
Battery Terminals and Voltage	Check			<input type="checkbox"/>	<input type="checkbox"/>
Generator Alternator cables	Check condition			<input type="checkbox"/>	<input type="checkbox"/>
Generator Alternator Terminals	Check tightness			<input type="checkbox"/>	<input type="checkbox"/>

SERVICE CHECKS

Oil - Check (Level)

Oil is toxic. If you swallow any oil, do not induce vomiting, seek medical advice. Used engine oil contains harmful contaminants which can cause skin cancer. Do not handle used engine oil more than necessary. Always use barrier cream or wear gloves to prevent skin contact. Wash skin contaminated with oil thoroughly in warm soapy water. Do not use petrol, diesel fuel or paraffin to clean your skin.

WARNING! *Never check the oil level or add oil with the engine running. Be careful of hot lubricating oil. Danger of scalding.*

Notice: Do not exceed the correct level of engine oil in the sump. If there is too much engine oil, the excess must be drained to the correct level. An excess of engine oil could cause the engine speed to increase rapidly without control.

Engine oil and oil filter change must be completed in accordance with the service schedules. Failure to change the oil and filter at the recommended interval could cause serious engine failure.

1. Stop the engine and allow it to cool.
2. Make the machine safe.
3. Wait for the oil to drain back into the engine sump before you take a reading. If not, a false low reading may be recorded which can cause the engine to be overfilled.
4. Get access to the engine.
5. Remove and clean the dipstick.
6. Replace the dipstick.
7. Remove the dipstick.
8. Check the oil level. The oil should be between the two marks on the dipstick.
9. If necessary, add more oil:
 - 9.1. Remove the filler cap.
 - 9.2. Add the recommended oil slowly through the filler point
 - 9.3. Replace the dipstick.
 - 9.4. Remove the dipstick.
 - 9.5. Check the oil level, if necessary add more oil.
 - 9.6. Replace the dipstick
 - 9.7. Replace the filler cap.

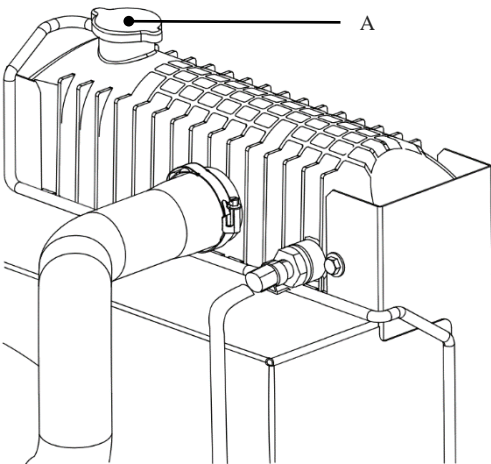
SERVICE CHECKS

Coolant - Check (Level)

CAUTION! The cooling system is pressurised when the coolant is hot. When you remove the cap, hot coolant can spray out and burn you. Make sure that the engine is cool before you work on the cooling system.

In most cases the generating set is supplied pre-filled with radiator coolant. Before starting and also as part of a regular maintenance schedule it is important to check the level of coolant in the radiator, and replenish as necessary.

1. Make the machine safe.
2. Allow the machine to cool fully before adding coolant.
3. Carefully loosen the radiator cap. Let any pressure escape before removing the cap.
4. Remove the radiator cap.
5. Check that the coolant level is flush with the top of the filler neck.
6. Fill with 50% antifreeze and 50% decalcified water until it reaches the correct level and replace the cap. *Make sure that cold coolant is not added to a radiator that is warm.*
7. Top liquid up until the pipes inside the radiator are covered approximately by the amount specified. Do not overfill the radiator, but leave room for the coolant to expand.
8. Run the engine to raise the coolant to working temperature and pressure.
9. Stop the engine, checks for leaks and re-check the fluid level.



A Coolant filler cap

SERVICE CHECKS

Air Filter - Check (Condition)

Engine performance and durability will be severely affected if the quality of the air intake is poor.

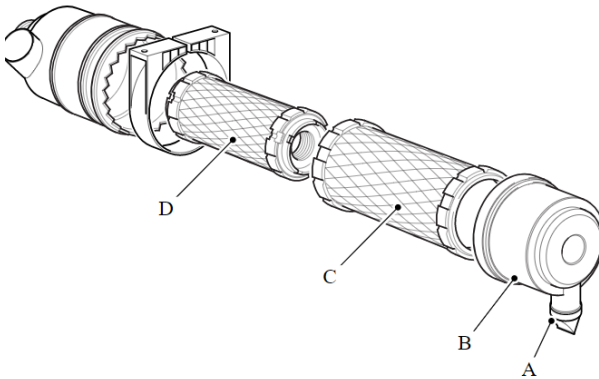
A dirty and blocked air cleaner element will reduce the amount of air entering the combustion chamber which can cause engine mis-firing, black smoke and low output power.

A dirty and blocked air filter can also lead to abrasion of the cylinder bores and valves (referred to as 'dusting'). This will cause excessive oil consumption, black smoke, low output power and a reduced engine life.

Refer to the machine's operator handbook for the air filter element removal and replacement procedures.

Inspect hoses and fittings for splits and poor clamping which may allow unfiltered air to enter the engine.

In hostile environments, change the air filter elements more frequently.



- A Dust valve
- B Cover
- C Outer element
- D Inner element

Dust Valve

Check (Condition)

- Check the dust valve for rips/tears.
- Check there are no obstructions.
- Check that the dust valve is free of dirt and dust.
- Check that the dust valve securely attached to the air filter housing.



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Please consult your manual for full information or consult your local dealer