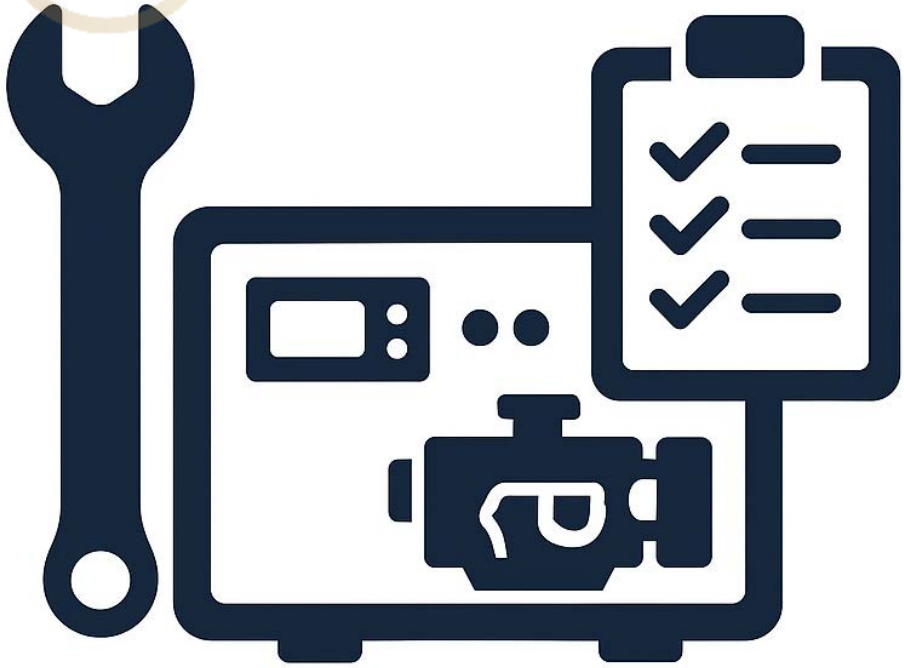
GENYARD

O&M Quick Start Guide

Diesel Generator Set



ENERGY, REDEFINED

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1. INTRODUCTION

This Guide has been designed as a breif technical information to operating, servicing and maintaining the generator set. It should be used in conjunction with the Engine and Alternator Manuals.

The Guide contains basic safety, operation instructions, lubrication, and maintenance information. This manual should be stored in or near the Genset area in a literature holder or literature storage area. Read, study, and keep the manual with the literature and engine information.

Some photographs or illustrations in this guide show details or attachments that may be different from your engine. Every generator set is uniquely defined by a model number and serial number indicated on a rating plate generally affixed to the alternator housing. This information is required when ordering spare parts or when service or warranty work is required.. Continuing improvement and advancement of product design may have caused changes to your engine which are not included in this guide. Whenever a question arises regarding your genset, or this guide, please consult with your Genyard for the latest available information.

IMPORTANT SAFETY INFORMATION

Most accidents that involve product operation, maintenance and repair are caused by failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing potentially hazardous situations before an accident occurs. A person must be alert to potential hazards. This person should also have the necessary training, skills and tools to perform these functions correctly.

Incorrect operation, lubrication, maintenance or repair of this product can be dangerous and could result in injury or death.

Do not operate or perform any lubrication, maintenance or repair on this product, until you have read and understood the operation, lubrication, maintenance and repair information.

Safety precautions and warnings are provided in this manual and on the product. If these hazard warnings are not heeded, bodily injury or death could occur to you or to other persons.

The hazards are identified by the “Safety Alert Symbol” and followed by a “Signal Word” such as “DANGER”, “WARNING” or “CAUTION”. The Safety Alert “WARNING” label is shown below.

The meaning of this safety alert symbol is as follows:

Attention! Become Alert! Your Safety is Involved.

The message that appears under the warning explains the hazard and can be either written or pictorially presented.

Operations that may cause product damage are identified by “NOTICE” labels on the product and in this publication.

The information, specifications, and illustrations in this publication are on the basis of information that was available at the time that the publication was written. The specifications, illustrations, and other items can change at any time. These changes can affect the service that is given to the product. Obtain the complete and most current information before you start any job.Genyard have the most current information available.

2. SAFETY

2.1 General

The generator set is designed to be safe when used in the correct manner. Responsibility for safety, however, rests with the personnel who install, use and maintain the set. The following safety precautions, if followed, will minimize the possibility of accidents. Before performing any procedure or operating technique, it is up to the user to ensure that it is safe. The generator set should only be operated by personnel who are authorized and trained.

WARNING:

Read and understand all safety precautions and warnings before operating or performing maintenance on the generator set.

Failure to follow the instructions, procedures, and safety precautions in this manual may increase the possibility of accidents and injuries.

Never start the generator set unless it is safe to do so.

Do not attempt to operate the generator set with a known unsafe condition.

If the generator set is unsafe, fit danger notices and disconnect the battery negative (-) lead so that it cannot be started until the condition is corrected.

Disconnect the battery negative (-) lead prior to attempting any repairs or cleaning inside the enclosure, if equipped.

Install and operate this generator set only in full compliance with relevant National, Local, or Federal Codes, Standards or other requirements.

2.2 Installation, Handling, and Towing

This Guide and installation manual should be read before installing the generator set, moving/lifting the generator set, or towing a mobile set. The following safety precautions should be noted:

WARNING:

Make electrical connections in compliance with relevant Electrical Codes, Standards or other requirements. This includes requirements for grounding and ground/earth faults.

For stationary generator sets with remote fuel storage systems, make sure such systems are installed in compliance with relevant Codes, Standards or other requirements.

Engine exhaust emissions are hazardous to personnel. The exhaust for all indoor generator sets must be piped outdoors via leak-free piping in compliance with relevant Codes, Standards and other requirements. Ensure hot exhaust silencers, piping and turbochargers, if equipped, are clear of combustible material and are guarded for personnel protection per safety requirements. Ensure that fumes from the exhaust outlet will not be a hazard.

Never lift the generator set by attaching to the engine or alternator lifting lugs. Use a sling with a "spreader bar" connected to the baseframe.

Ensure the lifting rigging and supporting structure is in good condition and has a capacity suitable for the load.

Keep all personnel away from the generator set when it is suspended.

Make sure all personnel are out of the generator set canopy or container, if equipped, before closing and latching enclosure doors.

When towing a mobile generator set, observe all Codes, Standards or other regulations and traffic laws. These include those regulations specifying required equipment and maximum and minimum speeds. Ensure brakes, if fitted, are in good order.

Do not permit personnel to ride in or on the mobile generator set. Do not permit personnel to stand or ride on the drawbar or to stand or walk between the generator set and the towing vehicle

Do not install or use the generator set in any classification of hazardous environment unless it has been specifically designed for that environment.

2.3 Fire and Explosion

Fuels and fumes associated with generator sets can be flammable and potentially explosive. Proper care in handling these materials can dramatically limit the risk of fire or explosion. However, safety dictates that fully charged BC and ABC fire extinguishers are kept on hand. Personnel must know how to operate them.

WARNING:

Ensure the generator set room is properly ventilated.

Keep the room, the floor and the generator set clean. When spills of fuel, oil, battery electrolyte or coolant occur, they should be cleaned up immediately.

Never store flammable liquids near the engine.

Store oily rags in covered metal containers.

Do not smoke or allow sparks, flames or other sources of ignition around fuel or batteries. Fuel vapors are explosive. Hydrogen gas generated by charging batteries is also explosive.

Turn off or disconnect the power to the battery charger before making or breaking connections with the battery.

Keep grounded conductive objects, such as tools, away from exposed live electrical parts, such as terminals, to avoid arcing. Sparks and arcing might ignite fuel or vapors.

Avoid refilling the fuel tank while the engine is running.

Do not attempt to operate the generator set with any known leaks in the fuel system.

The excessive build-up of unburned fuel gases in the exhaust system can create a potentially explosive condition. This build-up can occur after repeated failed start attempts, air flap valve testing, or hot engine shutdown. Open exhaust system purge plugs, if equipped, and allow the gases to dissipate before attempting to restart the generator set.

2.4 Mechanical

The generator set is designed with guards for protection from moving parts. Care must still be taken to protect personnel and equipment from other mechanical hazards when working around the generator set.

WARNING:

Do not attempt to operate the generator set with safety guards removed. While the generator set is running do not attempt to reach under or around the guards to do maintenance or for any other reason.

Keep hands, arms, long hair, loose clothing and jewelry away from pulleys, belts and other moving parts.

Attention: Some moving parts can not be seen clearly when the set is running.

Keep access doors on enclosures, if equipped, closed and locked when not required to be open.

Avoid contact with hot oil, hot coolant, hot exhaust gases, hot surfaces and sharp edges and corners.

Wear protective clothing including gloves and hat when working around the generator set.

Do not remove the radiator filler cap until the coolant has cooled. Then loosen the cap slowly to relieve any excess pressure before removing the cap completely.

Ethyl Ether starting aids **must not** be used on engines with combustion air preheating devices or on engines manufactured by the Detroit Diesel Corporation (DDC). In general these starting aids are not recommended on any engine. They will reduce the efficient working life of the engine.

2.5 Chemical

Fuels, oils, coolants, lubricants and battery electrolyte used in this generator set are typical of the industry. However, they can be hazardous to personnel if not treated properly.

WARNING:

Do not swallow or have skin contact with fuel, oil, coolant, lubricants or battery electrolyte. If swallowed, seek medical treatment immediately. Do not induce vomiting if fuel is swallowed. For skin contact, wash with soap and water.

Do not wear clothing that has been contaminated by fuel or lube oil.

Wear an acid resistant apron and face shield or goggles when servicing the battery. If electrolyte is spilled on skin or clothing, flush immediately with large quantities of water.

2.6 Noise

Generator sets that are not equipped with sound attenuating enclosures can produce noise levels in excess of 105 dBA. Prolonged exposure to noise levels above 85 dBA is hazardous to hearing.

WARNING:

Ear protection must be worn when operating or working around an operating generator set.

2.7 Electrical

Safe and efficient operation of electrical equipment can be achieved only if the equipment is correctly installed, operated and maintained.

WARNING:

The generator set must be connected to the load only by trained and qualified electricians who are authorized to do so, and in compliance with relevant Electrical Codes, Standards and other regulations. Where required, their work should be inspected and accepted by the inspection agency prior to operating the generator set.

Ensure the generator set, including a mobile set, is effectively grounded/earthed in accordance with all relevant regulations prior to operation.

The generator set should be shutdown with the battery negative (-) terminal disconnected prior to attempting to connect or disconnect load connections.

Do not attempt to connect or disconnect load connections while standing in water or on wet or soggy ground.

Do not touch electrically energized parts of the generator set and/or interconnecting cables or conductors with any part of the body or with any non insulated conductive object.

Replace the generator set terminal box cover as soon as connection or disconnection of the load cables is complete. Do not operate the generator set without the cover securely in place.

Connect the generator set only to loads and/or electrical systems that are compatible with its electrical characteristics and that are within its rated capacity.

Be sure all electrical power is disconnected from electrical equipment being serviced.

Keep all electrical equipment clean and dry. Replace any wiring where the insulation is cracked, cut, abraded or otherwise degraded. Replace terminals that are worn, discolored or corroded. Keep terminals clean and tight.

Insulate all connections and disconnected wires.

Use only Class BC or Class ABC extinguishers on electrical fires.

2.8 First Aid For Electric Shock

WARNING:

⚠ Do not touch the victim's skin with bare hands until the source of electricity has been turned off.

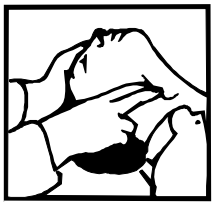
- Switch off power, if possible.
- Otherwise pull the plug or pull the cable away from the victim.
- If this is not possible, stand on dry insulating material and pull the victim clear of the conductor, preferably using insulated material such as dry wood.
- If victim is breathing, turn the victim into the recovery position described below.
- If victim is unconscious, perform resuscitation as required:

OPEN THE AIRWAY:

1. Tilt the victim's head back and lift the chin upwards.
2. Remove objects from the mouth or throat (including false teeth, tobacco, or chewing gum).

BREATHING:

1. Check that the victim is breathing by looking, listening and feeling for the breath.



CIRCULATION:

1. Check for pulse in the victim's neck.

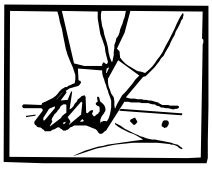
IF NO BREATHING BUT PULSE IS PRESENT:

1. Pinch the victim's nose firmly.
2. Take a deep breath and seal your lips around the victim's lips.
3. Blow slowly into the mouth watching for the chest to rise. Let the chest fall completely. Give breaths at a rate of 10 per minute.

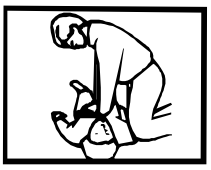
4. If the victim must be left to get help, give 10 breaths first and then return quickly and continue.
5. Check for pulse after every 10 breaths.
6. When breathing restarts, place the victim into the recovery position described later in this section.

IF NO BREATHING AND NO PULSE:

1. Call or telephone for medical help.
2. Give two breaths and start chest compression as follows:
3. Place heel of hand 2 fingers breadth above ribcage/breastbone junction.
4. Place other hand on top and interlock fingers.

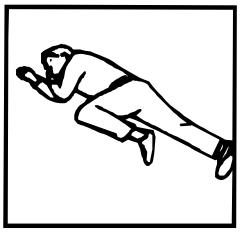


5. Keeping arms straight, press down 4-5 cm (1.5-2 inch) 15 times at a rate of 80 per minute.
6. Repeat cycle (2 breaths, 15 compressions) until medical help takes over.



7. If condition improves, confirm pulse and continue with breaths. Check for pulse after every 10 breaths.
8. When breathing restarts, place the victim into the recovery position described below.

RECOVERY POSITION:



1. Turn the victim onto the side.
2. Keep the head tilted with the jaw forward to maintain the open airway.
3. Make sure the victim cannot roll forwards or backwards.
4. Check for breathing and pulse regularly. If either stops, proceed as above.

WARNING:

⚠ Do not give liquids until victim is conscious.

3. Product Information Section

3.1 Model View Illustrations (Open Genset)

The model views show typical features of the open type genset.Due to individual applications/ratings, your genset may appear different from the illustrations.

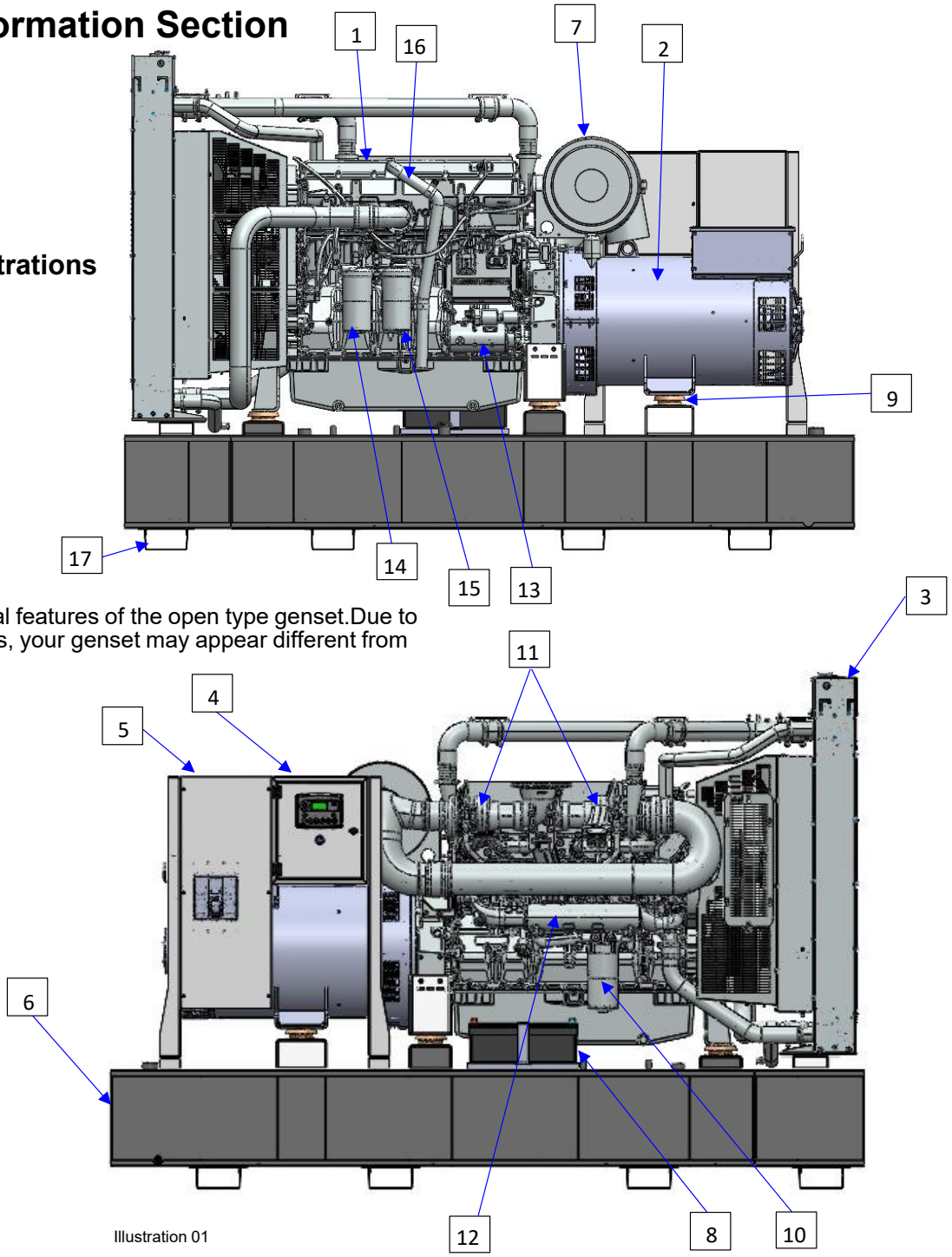


Illustration 01

No	Description	No	Description
1	Engine	10	Oil filter
2	Alternator	11	Turbochargers
3	Radiator	12	Oil cooler
4	Control Panel housing	13	Starting motor
5	Circuit Breaker housing	14	Primary fuel filter
6	Base frame	15	Secondary fuel filter
7	Air Cleaner	16	Crankcase breather outlet hose
8	Batteries	17	Forklift pockets (removable)
9	Resilent mountings (AVM)		

Product Information Section

3.2 Model View Illustrations (Enclosed Genset)

The following model views show typical features of the Enclosed genset. Due to individual applications, your Genset may appear different from the illustrations.

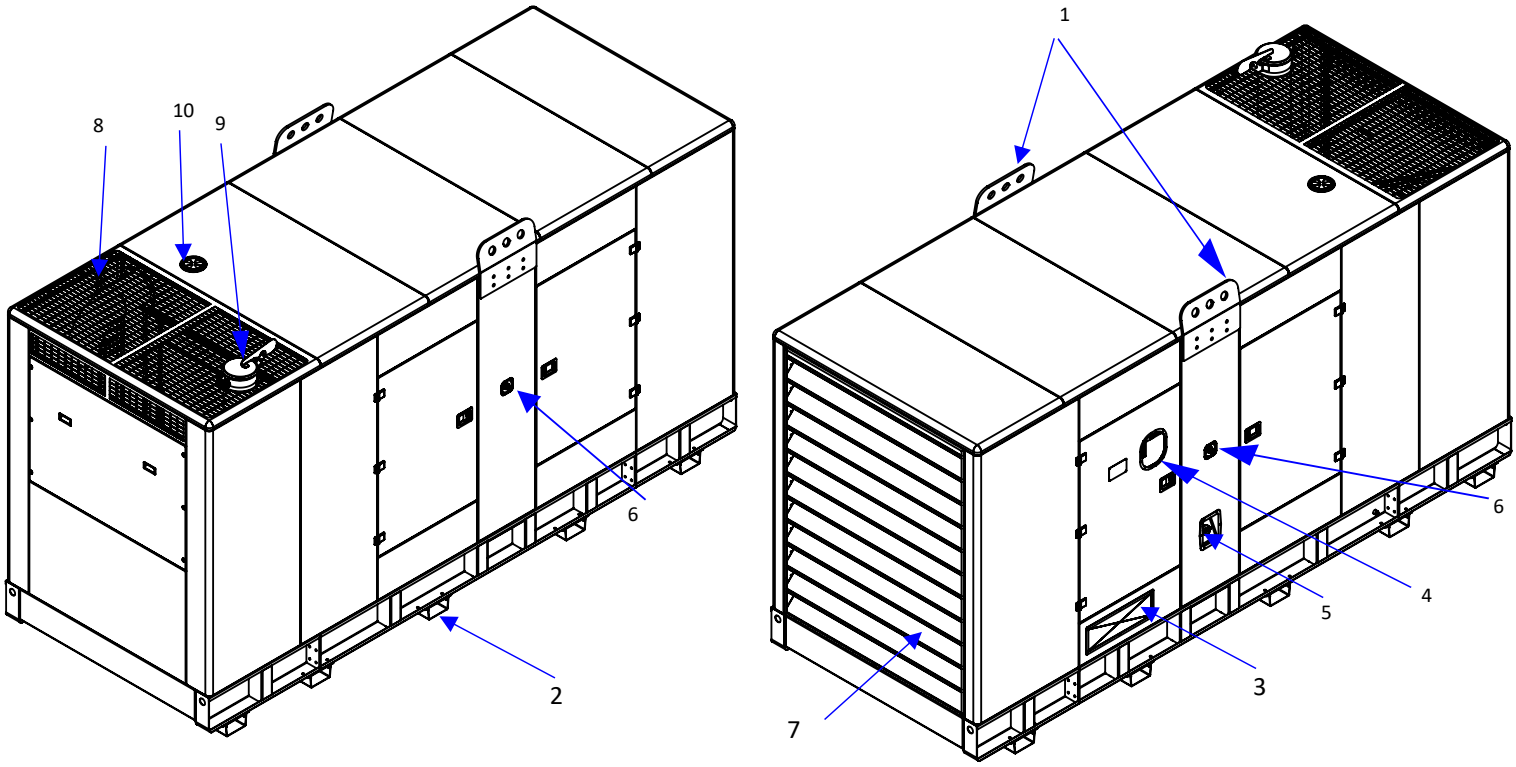


Illustration 02

Typical example

(1) Lifting points
(2) Removable forklift pockets
(3) Power cable access
(4) Control panel access
(5) Diesel fuel filling Point
(6) Emergency stop
(7) Airlinlet
(8) Air outlet
(9) Exhaust rain cap
(10) Radiator filling cap

3.3 Installation, Handling

3.3.1 Installation Factors

Once the size of the generator set and the required associated control panel and switchgear have been established, plans for installation can be prepared. Proper attention to mechanical and electrical engineering details will assure a satisfactory power system installation.

Factors to be considered in the installation of a generator are:

- Access and maintenance location.
- Floor loading.
- Vibration transmitted to building and equipment.
- Ventilation of room.
- Engine exhaust piping and insulation.
- Noise reduction.
- Method of engine cooling.
- Size and location of diesel fuel tank, or gas supply system.
- Local, national or insurance regulations.
- Smoke and emissions requirements.

3.3.2 Moving the Generator Set

The generator set baseframe is specifically designed for ease of moving the set. Improper handling can seriously damage the generator and components.

Using a forklift, the generator set can be lifted or for minor location adjustments pushed/pulled by the baseframe.

NOTE: Never lift the generator set by attaching to the engine or alternator lifting lugs!

For lifting the generator set, lift points are provided on the baseframe. Shackles and chains of suitable length and lifting capacity must be used and a spreader bar is required to prevent damaging the set. See figure 1.1. An optional “single point lifting bale” is available on most diesel generator sets if the generator set will be regularly moved by lifting.

NOTE: The single point lifting eye should only be used to lift a generator set with an empty fuel tank. In all other situations, i.e. with the fuel tank containing fuel, the lifting of the generator set should only take place using the lifting eyes located on the side of the baseframe using the appropriate lifting equipment, including spreader bars, etc. to prevent damage to the generator set.

3.3.3 Generator Set Location

The set may be located in the basement or on another floor of the building, on a balcony, in a penthouse on the roof or even in a separate building. Usually it is located in the basement for economics and convenience of operating personnel. The generator room should be large enough to provide adequate air circulation and plenty of working space around the engine and alternator.

If it is necessary to locate the generator set outside the building, it can be furnished enclosed in a housing and mounted on a skid or trailer (for diesel generator sets). This type of assembly is also useful, whether located inside or outside the building, if the installation is temporary. For outside installation the housing is normally “weatherproof”. This is necessary to prevent water from entering the alternator compartment if the generator set is to be exposed to rain accompanied by high winds.

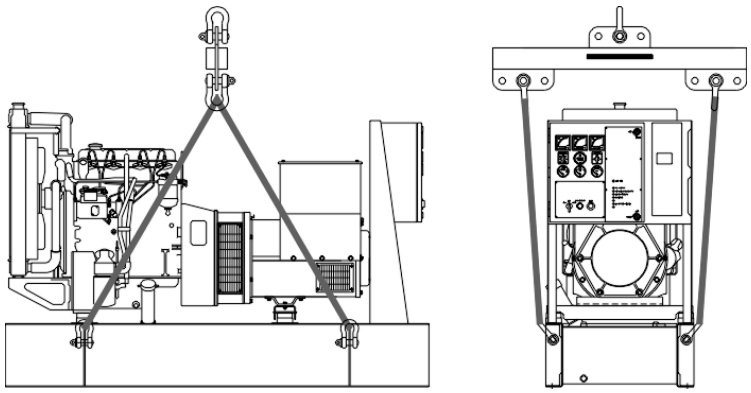


Figure 1.1 Proper Lifting Arrangement

4. Operation Section

4.1 Generator set start-up checklist

This checklist should be used to validate the completion of generator set start-up procedure. A check-list should be completed for each diesel generator set of a multiple installation for open and closed type

Project Details

Project Name ..……

……..……

Customer (End User)..……..……...

……..…….

Generator set details

Generator set model…….……..

Generator set serial number……Set no…….

Engine model……

Engine serial number……

Alternator model……

Alternator serial number……

Control type / model……...

Control serial number……..

Generator set environment and services

Precommissioning work & checklist complete ☐

Surroundings clean & clear from obstruction ☐

Lighting / heating, etc., systems operational ☐

Observations……....

……

Safety Checks

Ensure starting is inhibited until start-up is required ☐

Set clean and fully assembled ☐

No loose materials near set ☐

Air ducts clear and clean ☐

Access & egress routes unobstructed & labelled ☐

Control & maintenance positions unobstructed ☐

Room secure – no unauthorised access ☐

Personnel warned of start-up process ☐

Cooling System

Set mounted radiator

Radiator, engine & pipework checked for leaks ☐

Belts & guards checked for security / slipping ☐

Coolant heater operational ☐

Leak check ☐

DCA dosing cartridges fitted & valves open ☐

Diesel Fuel System

Bulk storage facility

Isolating valves correctly positioned ☐

Transfer pump & controls operational ☐

Pipeline / tank heating system operational ☐

Fill point alarm operational ☐

Leaks check ☐

Storage facility secure ☐

Day tank

Isolating and solenoid valves checked ☐

Tank filled ☐

Spillage containment & alarms operational ☐

Transfer pump operational ☐

Leak check ☐

Fire valves & release tested and operational ☐

Lubrication system

Engine oil pan filled to correct level ☐

Oil make up system operational ☐

Starting system

Battery starting

Batteries installed, filled and connected ☐

Battery charger commissioned ☐

Exhaust system

Check security of pipework & muffler ☐
Check cowl and/or rain cap are operational ☐
Check water drain pipework and valves correct ☐
Leak check ☐
Check for exhaust gas recirculation ☐

Ventilation & attenuation

Check louvers are clear and operational ☐
Forced ventilation system operational if applicable ☐
Check for hot air recirculation ☐

Electrical system

Control systems

Auxiliary supplies energised ☐
Generator set local controls checked ☐
Generator set remote controls checked ☐
Generator set system controls checked ☐
Customer remote indication / controls checked ☐

Changeover switchgear / transfer switch

Auxiliary supplies energised ☐
Utility supply energised ☐
Voltage / phase rotation checked ☐
Indications correct ☐
All covers in position ☐

Paralleling / Synchronizing switchgear

Auxiliary supplies energised ☐
Indications correct ☐
All covers in position ☐

Initial start-up

Manual start-up, idle & full speed checks complete ☐
Generator set voltage & frequency correct to order ☐
Control system calibrations checked ☐
Phase rotation checked ☐
Paralleling sets phase coincidence check ☐
Generator set switchgear manual operation correct ☐
Local stop / emergency stop control checked ☐
Remote start / stop / emergency stop checked ☐

Generator set load test

Note: Load test is carried out on customer's site load unless agreed in writing prior to start-up. Artificial load bank test will be performed using resistive load unless otherwise specified.

Load test completed using customer's load ☐
Record load achieved……kW

Load bank test (if applicable)

Check load bank voltage & power capability ☐
Check cables installed correctly & tightened ☐
Energise auxiliary supplies and check functionality ☐
Load test completed ☐
Result sheet completed ☐
Record load achieved……kW
Record power factor……

System start-up completion

Generator set operational ☐
Changeover / transfer switch operational ☐
Paralleling switchgear operational ☐
Automatic operations checked ☐
All safety shutdowns and warnings operational ☐
Electrical HV/MV/LV rules and procedures in place ☐

Comments on any item that may affect acceptance:

……
……
……
……
……
……
……
……

Checklist completed by ……
Date……...
Name……
Company……..

Note: Completion of this checklist does not relieve the installer of contract obligations.

4.2 Description of Controls

Control of the module is via push buttons mounted on the front of the module with ***Stop/Reset Mode*** , ***Manual Mode*** , ***Auto Mode*** ,***Start*** ***Close Generator*** and ***Open Generator*** functions. For normal operation, these are the only controls which need to be operated. Details of their operation are provided later in this document.

WARNING: All checks must only be carried out on a switched off, isolated, and cold generator set!

Personnel working on generator plant must be familiar with normal operating procedures and hazards!

Failure to observe safety precautions may result in severe personal injury or death!

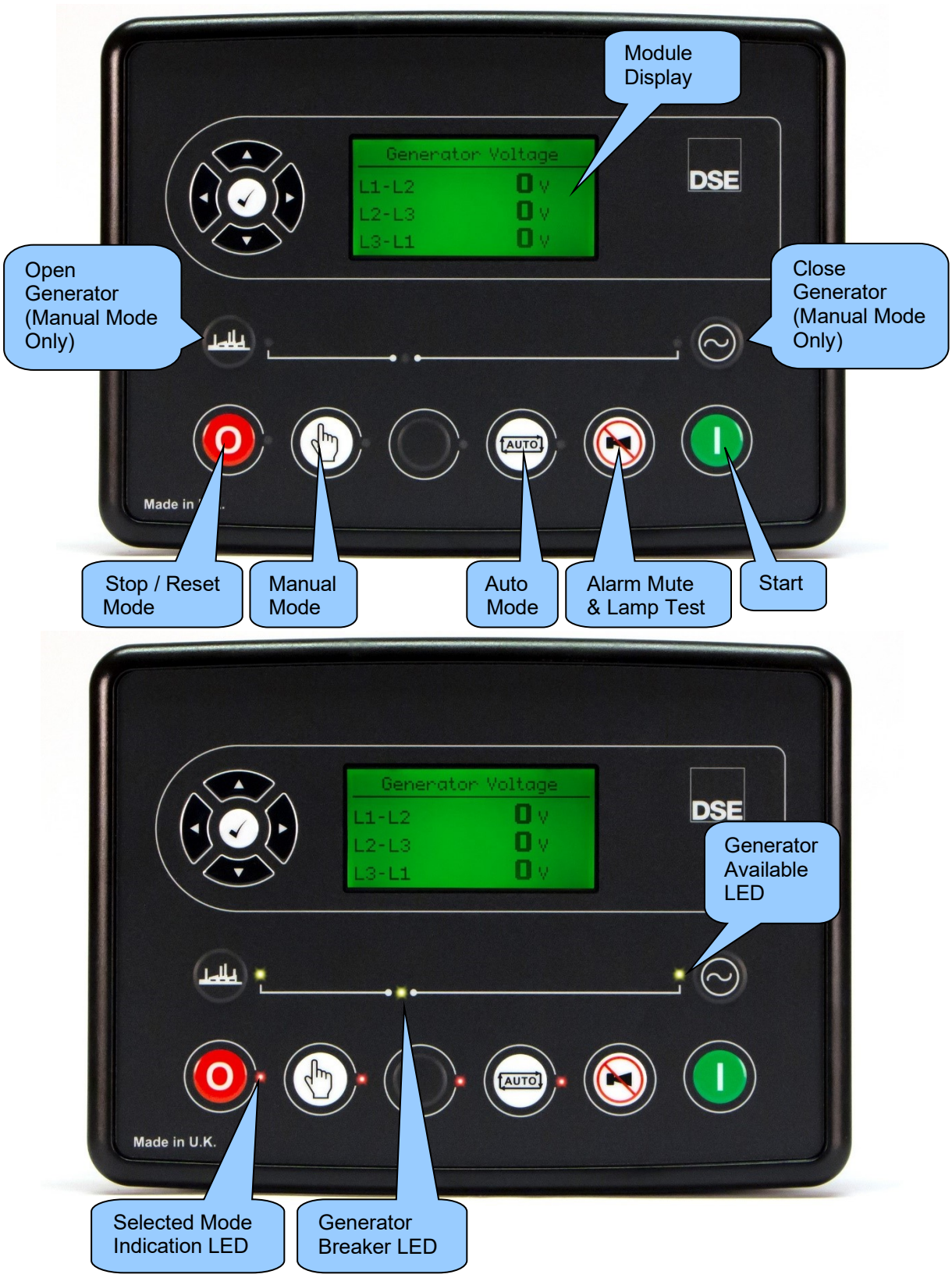
Ear protection must be used at all times!

Pre Start-up Procedure

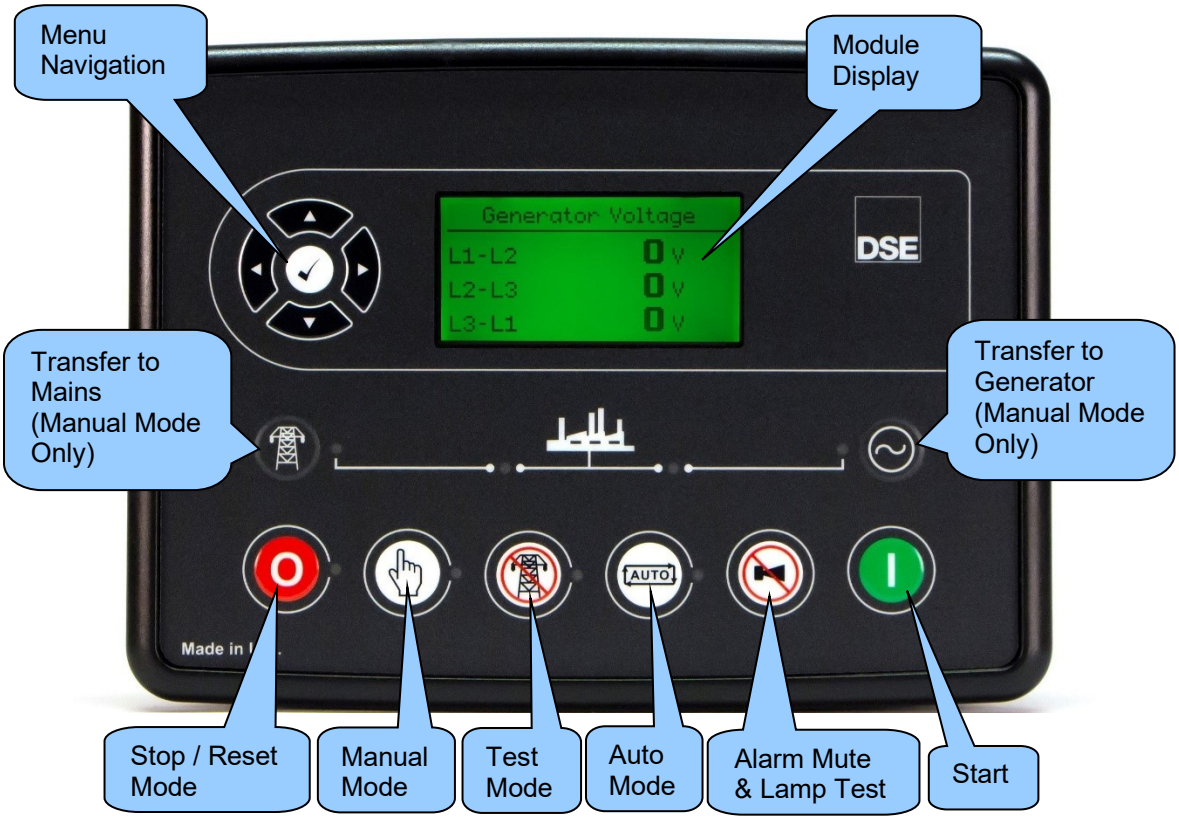
* Check air inlet/outlet area for obstructions and fuel, oil and coolant lines for leaks.
* Check all fluid levels - Oil, Fuel, Coolant. If low, refer to appropriate manual for model requirements and fill accordingly.
* Confirm Earth Grounding (Follow the requirements of the local electrical code.)
* Check battery connections.
* Check circuit breaker position is open.
* Ensure the chassis area of the generator set is free from fluid accumulation.

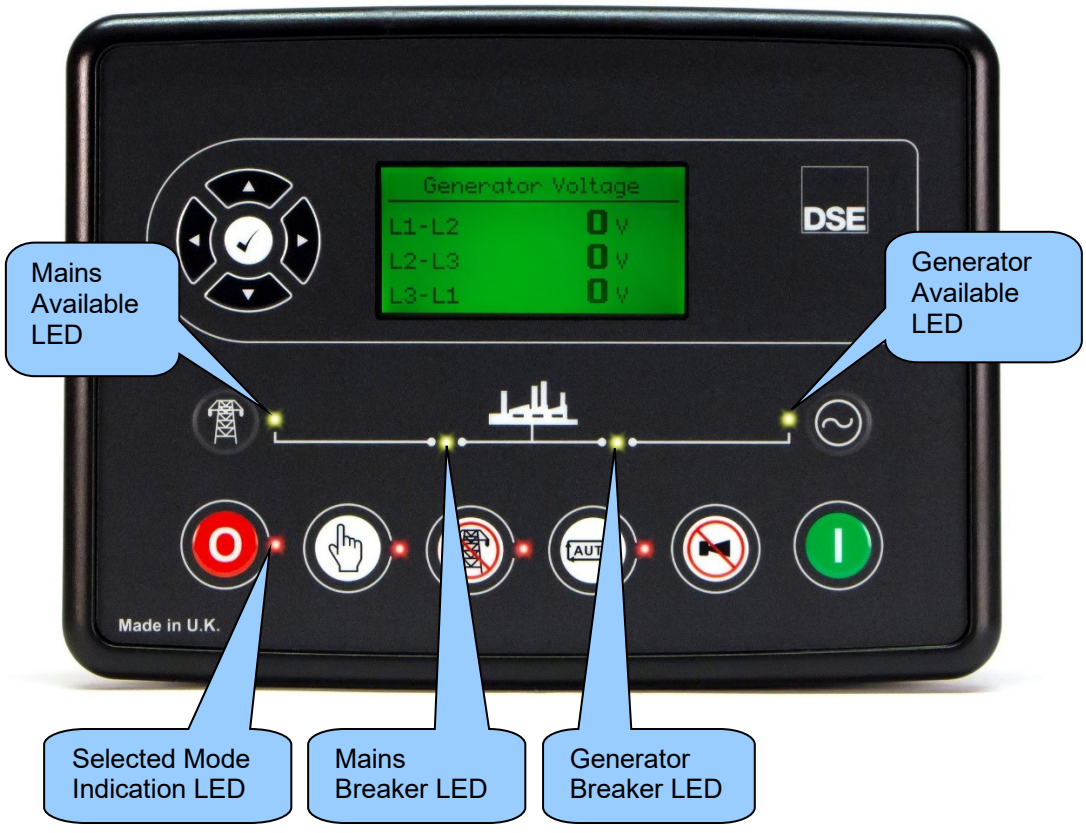
NOTE: For further details, see DSE related *Operation* and Maintenance manual.

4.2.1 DSE6110 MKIII



4.2.2 DSE6120 MKIII





4.3 Quickstart Guide

This section provides a quick start guide to the module's operation.

4.3.1 Starting/ Manual Mode

Manual Mode is activated by pressing the ***Manual Mode*** button.

The LED above the ***Manual Mode*** button illuminates to indicate ***Manual Mode*** operations.

In ***Manual Mode*** the generator does not start automatically

To begin the starting sequence, press the ***Start*** button.

NOTE: For further details, see the DSE Operation & Maintenance Manual related to your control model

4.3.2 Stopping/ Manual Mode

In ***Manual Mode*** the set continues to run until either:

- The ***Stop/Reset Mode*** button is pressed – The delayed load outputs are de-activated immediately and the set immediately stops.
- The ***Auto Mode*** button is pressed. The set observes all ***Auto Mode*** start requests and stopping timers before beginning the *Auto Mode Stopping Sequence*.

4.3.3 Test Mode

Test Mode is activated by pressing the ***Test Mode*** button.
The LED above the ***Test Mode*** button illuminates to indicate ***Test Mode*** operations.

In ***Test Mode***, the set does not start automatically.
To begin the starting sequence, press the ***Start*** button.

4.6.3 Stopping Sequence

In ***Test Mode*** the set continues to run until either:

- The ***Stop/Reset Mode*** button is pressed – The delayed load outputs are de-activated immediately and the set immediately stops.
- The ***Auto Mode*** button is pressed. The set observes all ***Auto Mode*** start requests and stopping timers before beginning the *Auto Mode Stopping Sequence*.

4.3.4 Automatic Mode

Auto Mode is activated by pressing the ***Auto Mode*** button.
The LED above the ***Auto Mode*** button illuminates to indicate ***Auto Mode*** operations.

Auto Mode allows the generator to operate fully automatically, starting and stopping as required with no user intervention.

WARNING: Set may start automatically as soon as Auto Mode is selected.
In Auto Mode, the set is started or stopped with a Remote Signal.

EMERGENCY STOP — **Push to STOP THE GENERATOR SET IMMEDIATELY !**
Investigation and correction of the fault MUST be carried out by a qualified person.

WARNING — **DO NOT use the Emergency Stop button for a normal generator set shutdown.**

5. Maintenance Section

5.1 Preventive maintenance

Preventive maintenance periods

These preventive maintenance periods apply to average conditions of operation. Check the periods given by the manufacturer of the equipment in which the engine is installed. Use the periods which are shortest. When the operation of the engine must conform to the local regulations these periods and procedures may need to be adapted to ensure correct operation of the engine.

It is good preventive maintenance to check for leakage and loose fasteners at each service.

These maintenance periods apply only to engines that are operated with fuel and lubricating oil which conform to the specifications given in this handbook.

5.1.1 Maintenance Interval Schedule

The maintenance operations must be applied at the interval (hours or months) which occurs first.

A Daily
B Every 250 hours or 12 months
C Every 500 hours or 12 months
D Every 1000 hours or 24 months
E Every 3000 hours or 24 months
F Every 3000 hours or 36 months
G Every 5000 hours

A	B	C	D	E	F	G	Operation
●							Check the coolant level
●							Check the air cleaner service indicator
●							Check the lubricating oil level
●							Drain water/sediment from the primary fuel filter
●							Visual inspection of the engine systems
●							Drain water/sediment from the fuel tank
	●						Check battery electrolyte level
		●					Perform a diagnostics check
		●					Renew the element in the primary fuel filter
		●					Renew the element in the secondary fuel filter
		●					Renew the engine lubricating oil **(1) (2)**
		●					Renew the element in the lubricating oil filter
		●					Inspect/adjust/renew the alternator and fan drive belts
		●					Inspect the crankshaft vibration damper
		●					Inspect/clean/tighten the earth stud
		●					Inspect/renew the coolant hoses, air hoses and hose clips
		●					Inspect and, if necessary, clean the exterior of the radiator/charge cooler
		●					Inspect the engine mountings
			●				Check/adjust the tappet clearances and the electronic unit injectors **(3)**
				●			Check the engine protection devices **(3)**
				●			Renew the thermostats in the coolant system
				●			Check/clean the engine speed/timing sensors
				●			Inspect the turbochargers **(3)**
					●		Drain and flush the coolant system and renew the coolant mixture
						●	Inspect the battery charging alternator **(3)**
						●	Inspect the starter motor **(3)**
						●	Inspect the coolant pump

(1) Oil sample analysis may be used to monitor the condition of the lubricating oil, but the lubricating oil must be replaced at 500 hours/12 months.
(2) If fuel with a high sulphur content is used, the lubricating oil may have to be replaced at more frequent intervals.
(3) This procedure must be done by a person who has had the correct training.

Note: General Information ,For specific engine model refer to related Engine/Alternator operation and maintenance manuals.

6. HAZARD LABEL LEGEND

Some or all of these hazard warning labels will appear on your generator set: