

# GenSet



## MGF 33 Y MGF 44 Y

MANUAL NUMBER  
MI-G-00065600

REVISION LEVEL 00  
05-04-2022





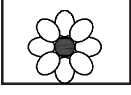

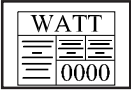

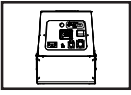
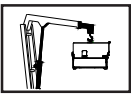
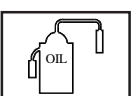
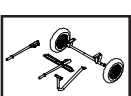
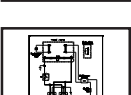

GENERATING SET FOR STATIONARY USE  
USE AND MAINTENANCE MANUAL

Sistema di Gestione Qualità  
conforme ai requisiti  
UNI EN ISO 9001:2015  
Certification  
in accordance with  
UNI EN ISO 9001:2015  
N° IT07/1433



Machine specifications can be modified at any time without any obligation to update this publication. It is recommended to read this manual thoroughly because incorrect operation may result in the warranty being void. Therefore it is also recommended to use only original Gen Set S.p.A. spare parts.

Reproduction of this manual is not permitted, unless written approval is obtained from Gen Set S.p.A..

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### 01.1 THIS PUBLICATION

The "USE AND MAINTENANCE MANUAL", published by the manufacturer, is an integral part of the power generator. The manual is identified by a publication identifier, printed on the cover page and repeated at the foot of every page, which allows the reader to identify and locate the publication and/or make subsequent reference to it.

All the information included herein is brought up to the date of publishing. The manufacturer reserves the right to modify it without notice, and accepts no responsibility for any error and/or omission.

### 01.2 PURPOSE

The USE AND MAINTENANCE MANUAL is intended for users and holds all the information necessary for using the product and perform its regular maintenance. Good working conditions, long life of the power generator, and the protection and safety of users, will be dependent upon strict observance of the instructions included in this manual. It is advisable to read thoroughly and observe the directions included in this publication, which are organised, as far as possible, according to the chronological sequence of operations when approaching the unit.

### 01.3 REFERENCE TO REGULATIONS

This machine is complying with the provisions of the following directives:

- 2006/42/EC: Machine Directive;
- 2014/30/EC: Electromagnetic Compatibility Directive;
- 2014/35/EC: Low Voltage Directive;
- 2000/14/EC: Noise Emission in the Environment Directive and the following principal harmonized technical standards:
  - EN 12100
  - EN 8528-13

#### SOME NOTES ABOUT NOISE EMISSION

(2000/14/EC Directive)

Sound power level ( $L_{WA}$ ):

Indicates the level of noise as required by the European Directive. It represents the amount of sound energy emitted in the time unit and is a characteristic of the sound source independent of the distance from the point of measurement. dB(A) is the unit of measurement.

Sound pressure ( $L_p$ ):

Measurement of the pressure generated by the emission of sound waves taken at a certain distance from the source. Its value changes with the distance from the source and is also measured in dB(A).

**WARNING!** Special attention must be paid to avoiding confusion between  $L_{WA}$  and  $L_p$ . In this manual the noise emission is indicated as sound power level ( $L_{WA}$ ) and sound pressure ( $L_p$ ) as well. Sound pressure values ( $L_p$ ), as a function of distance, can be calculated for equipment with a given sound power level ( $L_{WA}$ ) using the following table:

$L_p$  at 1 m =  $L_{WA}$  - 8 dB

$L_p$  at 4 m =  $L_{WA}$  - 20 dB

$L_p$  at 7 m =  $L_{WA}$  - 25 dB

$L_p$  at 10 m =  $L_{WA}$  - 28 dB

$L_p$  at 16 m =  $L_{WA}$  - 32 dB

Example: for equipment with  $L_{WA} = 90$  dB:

$L_p$  at 1 m = 90 dB - 8 dB = 82 dB

$L_p$  at 4 m = 90 dB - 20 dB = 70 dB

$L_p$  at 7 m = 90 dB - 25 dB = 65 dB

$L_p$  at 10 m = 90 dB - 28 dB = 62 dB

$L_p$  at 16 m = 90 dB - 32 dB = 58 dB

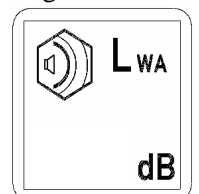
The Directive 2000/14/EC specifies that the limits of sound emissions are dependent on the power output of power generators or welding generators. The limits set down by this Directive are relating to the sound power level guaranteed and not to the sound power level measured, which does not take account of all the possible variables resulting from either the production stage or the different measurement procedures.

The reduction of the limits provided for has been divided in two phases: the first phase in force from 03/01/02 and the second phase in force from 03/01/06. The following table shows the sound power levels ( $L_{WA}$ ) approved for power generators and welding generators.

Electric power output $P_{el}$ kW	Sound power level permitted from 03/01/02 Phase 1	Sound power level permitted from 03/01/06 Phase 2
$P_{el} \leq 2$	$L_{WA}$ dB (A) $97 + \log P_{el}$	$L_{WA}$ dB (A) $95 + \log P_{el}$
$2 < P_{el} \leq 10$	$L_{WA}$ dB (A) $98 + \log P_{el}$	$L_{WA}$ dB (A) $96 + \log P_{el}$
$P_{el} > 10$	$L_{WA}$ dB (A) $97 + \log P_{el}$	$L_{WA}$ dB (A) $95 + \log P_{el}$

The Directive 2000/14/EC requires that the power generator or welding generator is marked with the sound power level guaranteed and the CE Marking relating to the EC Declaration of Conformity.

The marking of the sound power level guaranteed consists of a number in dB, the  $L_{WA}$  mark and the specific symbol:



## 01.4 USING THIS MANUAL

“Symbols” are used along with text to highlight and point out visually the relevance of different types of information. Graphic representation of symbols and their meaning:



Points out to important complementary information.



The non-observance of associated directions can cause damage, even irreparable, to the power generator.



Points out to possible situations dangerous for people.

This manual, together with appendices and any inclusions, must be kept with the utmost care and always be unabridged, undamaged and readable in its entirety. If lost, a copy must be promptly requested to the manufacturer.

## 01.5 TERMINOLOGY

Explanation of some of the terms relating to the power generator and used in this publication.

**FRONT:** the part of the unit where the control panel is located.

**BACK:** the opposite part.

**RIGHT OR LEFT SIDE:** referred to an operator standing in front of the unit and looking at the control panel.

## 01.6 ABBREVIATIONS

A	ampere
V	volt
ca	alternate current
cc	direct current
3F + N	three phase plus neutral
Ah	ampere / hour
Hz	hertz
hp	horsepower (1hp = 0,736 kW)
cos φ	power factor
kW	kilowatt
kWm	kilowatt motor
kVA	kilovolt ampere
kg	kilogram
l	litre
l/h	litre / hour
mm	millimetre
m	metre
s	second
°C	degree Celsius
$L_{WA}$	sound power level
$L_p$	sound pressure
dB(A)	decibel
Y	star connection
D	delta connection



02.1- Precautions to be observed.....page 8

02.2- Risks for the operator when using this unit.....page 9

02.3- Protective clothing recommended for operators.....page 9

02.4- Meaning of safety signs.....page 10

02.5- Location of safety signs provided on the unit.....page 13

Read carefully the instructions for use; operate according to the regulations in force in your country.

### 02.1 SAFETY PRECAUTIONS TO BE OBSERVED



#### WHEN FUELLING

Engine fuel can cause fire or explosion:

- Stop the engine before fuelling and let the machine cool.
- Do not fuel while smoking or near sparks or flames.
- Do not overfill the tank. In case, clean up any spilled fuel immediately before starting the engine.



#### WHEN PERFORMING MAINTENANCE

- Always switch off the generator before performing any service.
- It is not advisable that maintenance operations are performed by unskilled personnel.
- Always use the necessary individual protection equipment.
- The battery contains sulphuric acid in solution, and can cause explosion:
  - Always disconnect the battery.
  - Never short battery's positive and negative terminals, as this can cause battery explosion.
  - Battery explosion can cause burns and blindness.
  - Always wear protection gloves, face masks and acid resistant cloth.
- In case of contact with acid do the following:
  - In case of splash of acid into the eyes: wash immediately with clean water and seek medical advice as soon as possible.
  - In case of splash of acid on the skin: wash immediately with clean water and seek medical advice as soon as possible.
  - In case of ingestion of acid: seek medical advice immediately.
- When checking the engine oil level or changing the oil:
  - Beware: hot oil can cause burns. Always wear protective gloves.



#### BEFORE STARTING THE GENERATOR

- Position the machine in order to guarantee a stationary use.
- Connect the power generator to earth using the proper terminal and a cable of suitable size without interposing switches or other devices capable of breaking the electrical connection. Make sure that no load is connected to the machine.



#### WHEN MOVING THE GENERATOR

- When transporting the generator to the place of use, it must be firmly fastened to the vehicle.
- When moving and transporting the generator, do not tilt excessively.
- Lift the generator using the lifting eye provided on the top of the unit.
- If it is necessary to lift the generator using a forklift, the position of forks in such a way as to balance the generator weight correctly.
- When lifting and moving the generator, do not stay or walk within the proximity of the lifting and moving equipment.
- Never leave the generator slung overhead.



#### WHEN USING THE GENERATOR

- Check that the generator is properly connected to earth.
- Check that your tools' cables are in perfect conditions.
- Make sure that switches and controls are correctly set for starting (see Chapter 07).
- Operate the generator in well-ventilated areas, making sure that the exhaust is not restricted.
- Keep the generator away from walls or other obstructions to avoid the hot air or exhaust recycling that would cause generator overheating.
- Use fume extractors to ensure the correct air turnover when operating indoors.
- Do not operate near flammable materials.
- Fill fuel tank when engine is stopped. Do not smoke when fuelling.
- Do not overfill the tank and clean up any spilled fuel.



- Check the level of any liquids that may leak into the bund.. Empty the bund if necessary. Do not dump the liquids onto land but dispose of them according to the local legislation.
- Check daily that there are no leaks of liquids from the engine.



**Do not disconnect the battery cables when the power generator is running.**



USES NOT ALLOWED

- Do not connect the power generator to the commercial electrical grid.
- Do not operate near flammable materials or if explosive gases or vapours are present.
- Do not operate in narrow or poorly ventilated places.
- Do not operate if the electrical protections are not effective.
- Do not touch the silencer and the engine parts close to it.
- Do not perform service when the engine is running.
- Do not tamper with electrical components.
- Any service operation on electrical components must be performed after stopping the engine and by skilled personnel.
- Stay away from moving parts and do not get close wearing loose clothing, ties, necklaces, bracelets, and anything that can be caught by moving parts.

## 02.2 RISKS FOR THE OPERATOR WHEN USING THIS UNIT



ELECTRIC SHOCK

Electric shock can injure or kill. This electric energy can cause severe or fatal shock to the operator or others in the workplace.

- Always connect the generator to earth.
- Never touch any parts that are electrically live.
- Repair or replace all worn or damaged parts.
- Install and maintain equipment according to regulations.
- Switch off the generator and disconnect the battery before performing any service or repairs.
- Read and follow all the instructions in this Manual.



FIRE AND EXPLOSION

Fire and explosion can be caused by hot slag or sparks.

- Be sure there is no combustible or flammable material in the workplace. Any material that cannot be removed must be protected.
- Ventilate all flammable or explosive vapours from the workplace.
- Do not cut or weld on containers that may have held combustibles.
- Provide a fire watch when working in an area where fire hazards may exist.



NOISE

Noise can cause permanent hearing loss.

You must protect your ears from loud noise to prevent loss of hearing.

- To protect your hearing, wear protective ear plugs and/or earmuffs. Protect others in the workplace.
- Noise levels should be measured to be sure the decibels (sound) do not exceed safe levels.
- For information on how to measure noise, please refer to Section 01.3 on page 5.



GASES AND FUMES

Combustion gases produced by the machine, if inhaled, are hazardous to your health. Make sure that these can dissipate in the atmosphere without obstructions.

## 02.3 PROTECTIVE CLOTH RECOMMENDED FOR OPERATORS

It is recommended that operators wear the following equipment:





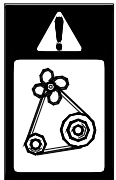
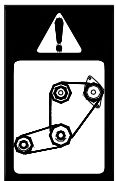
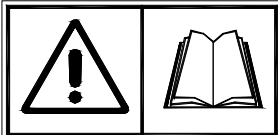
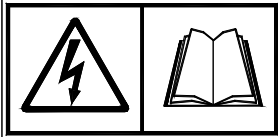
- Coveralls
- Medium/heavy duty gloves
- Acid resistant gloves (only for battery maintenance)
- Protective ear plugs and/or earmuffs

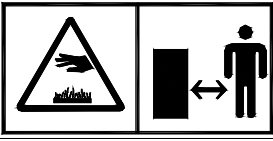
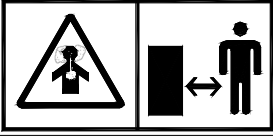

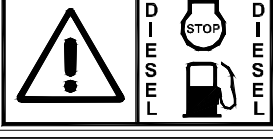






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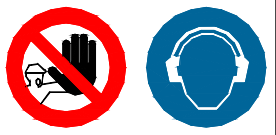

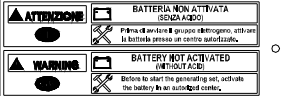
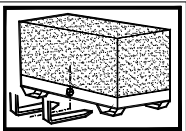
02.4 MEANING OF SAFETY SIGNS

These signs inform the user about any hazards that can cause severe injury. Read carefully the meanings and precautions indicated in this manual.

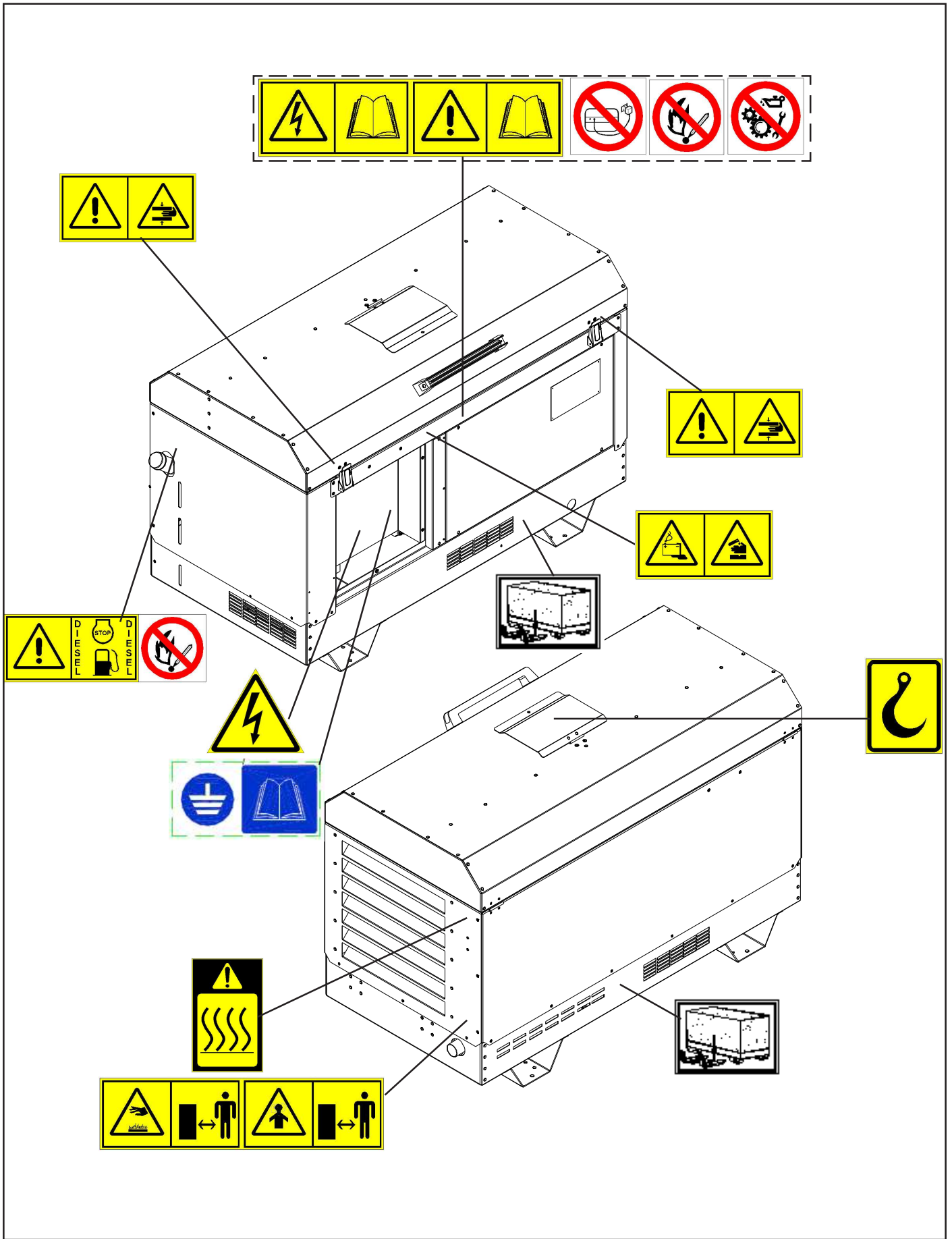
If the original stickers attached to the machine get lost, damaged or even partially unreadable, they must be replaced.

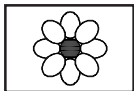
Danger signs	Meaning
	<p>Danger of electric discharges.</p>
	<p>Danger: the generator can be started remotely, do not stay in the proximity.</p>
	<p>Danger of burns: hot surfaces.</p>
	<p>Danger: do not open when the engine is hot.</p>
	<p>Danger: belt and fan propeller. Turn off the generator before opening covers or raising the canopy.</p>
	<p>Danger: belt. Turn off the generator before opening covers or raising the canopy.</p>
	<p>Read and understand the Use and Maintenance Manual before operating the generator. The machine has been designed in such a way as to guarantee the safe and reliable operation, as long as the instructions are followed; otherwise personal injury or equipment damage could result.</p>
	<p>Danger of electric discharges: read the manual.</p>

Danger signs	Meaning
	<p>Danger of burns! Do not touch the exhaust manifold or the engine when the generator is in operation. Stay away from the generator.</p>
	<p>Exhaust gases contain carbon monoxide, and other components dangerous to your health.. Never operate the generator in a closed room. If installed inside, strictly observe the rules in force about ventilation.</p>
	<p>Fuels are extremely flammable, and in certain conditions even explosive. Fuel in a well ventilated area and after stopping the engine. Do not bring close cigarettes, sparks or flames while fuelling. Clean any petrol spill immediately.</p>
	<p>Fuels are extremely flammable, and in certain conditions even explosive. Fuel in a well ventilated area and after stopping the engine. Do not bring close cigarettes, sparks or flames while fuelling. Clean any diesel oil spill immediately.</p>
	<p>Danger of leaks of corrosive liquids.</p>
	<p>Danger of crushing the upper limbs.</p>
Prohibition signs	Meaning
	<p>Electrical connections to an emergency grid must be carried out by qualified electricians and in conformity with the rules in force on that matter. Improper connections can result in current returns from generator to connected lines. Such current returns can result in electric shocks received by workers of the electric company or by people coming into contact with electric lines during failure recovery. Moreover, as soon as the line is recovered, the generator can explode, burn or cause fires in the building electrical system.</p>
	<p>Prohibition of cleaning, lubricating, repairing or adjusting moving parts.</p>
	<p>Prohibition of extinguishing fires with water; use fire extinguishers containing proper extinguishing agents.</p>
	<p>Prohibition of using flames or smoking.</p>

Obligation signs	Meaning
	<p>Do not go close to the generator with flames. Obligation of wearing protection goggles when using grinders, power tools etc., connected to the generator.</p>
	<p>Do not perform service when the generator is in operation. Wear protective ear plugs and/or earmuffs when close to the generator.</p>
Information signs	Meaning
	<p>Indicates the location of a point for lifting the generator unit.</p>
	<p>This card warns that the battery that the has no acid. Before starting the generator, prepare the battery according to the instructions of Chapter "06".</p>
	<p>Marks the position of the points for lifting the unit using a fork lift.</p>

02.5 LOCATION OF SAFETY SIGNS PROVIDED ON THE UNIT





03.1- Waste material and lubricating oil.....page.15

03.2- Disposal of the unit.....page.15

### 03.1 WASTE MATERIAL AND LUBRICATING OIL

When running, the generator produces no waste material. Spare parts replaced during the unit life and the lubricating oil are counted as waste, and must be disposed of according to the laws in force in the country where the generator is located.

### 03.2 DISPOSAL OF THE UNIT

Procedure

1. Disassemble the unit and classify its components according to the following rule:

- Reusable components
- Components made of recyclable material
- Components to be disposed of and lubricating oil (waste)

The parts so disassembled must be disposed of according to the laws in force in the country where the power generator is located.



**Do not dispose of any type of lubricating oil, mineral or synthetic, onto land, drains or sewers.**

**Dispose of batteries as instructed by local legislation.**



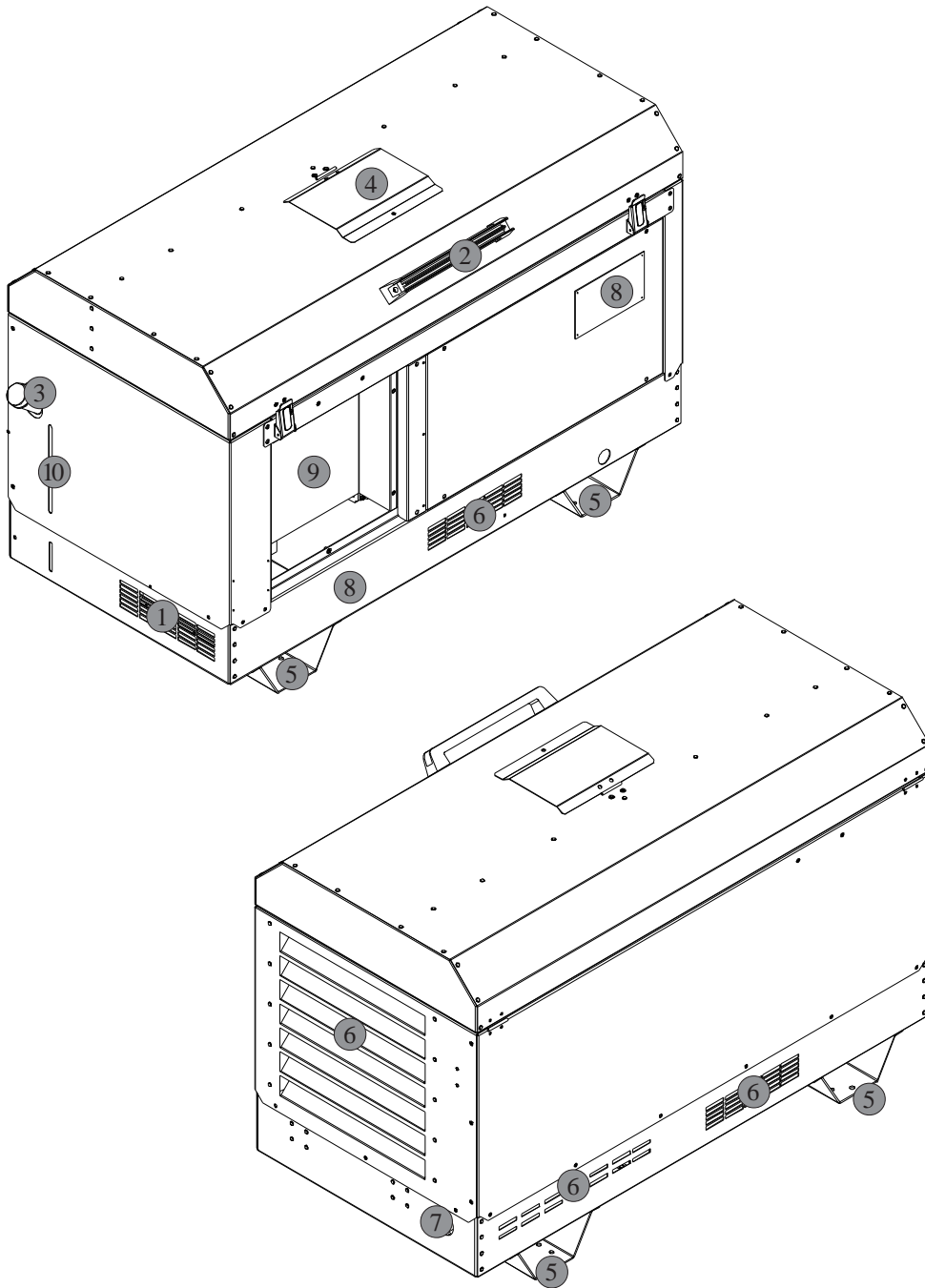
04.1- Generator components.....page.17

04.2- Control panel description.....page.19



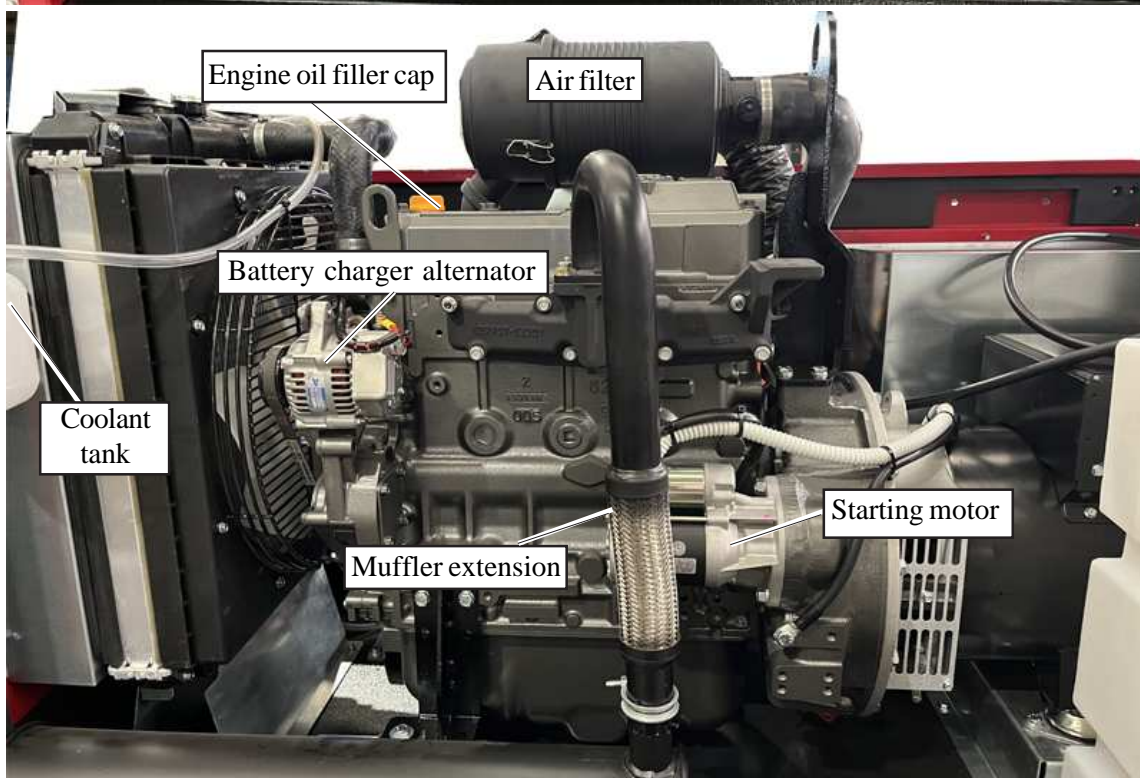
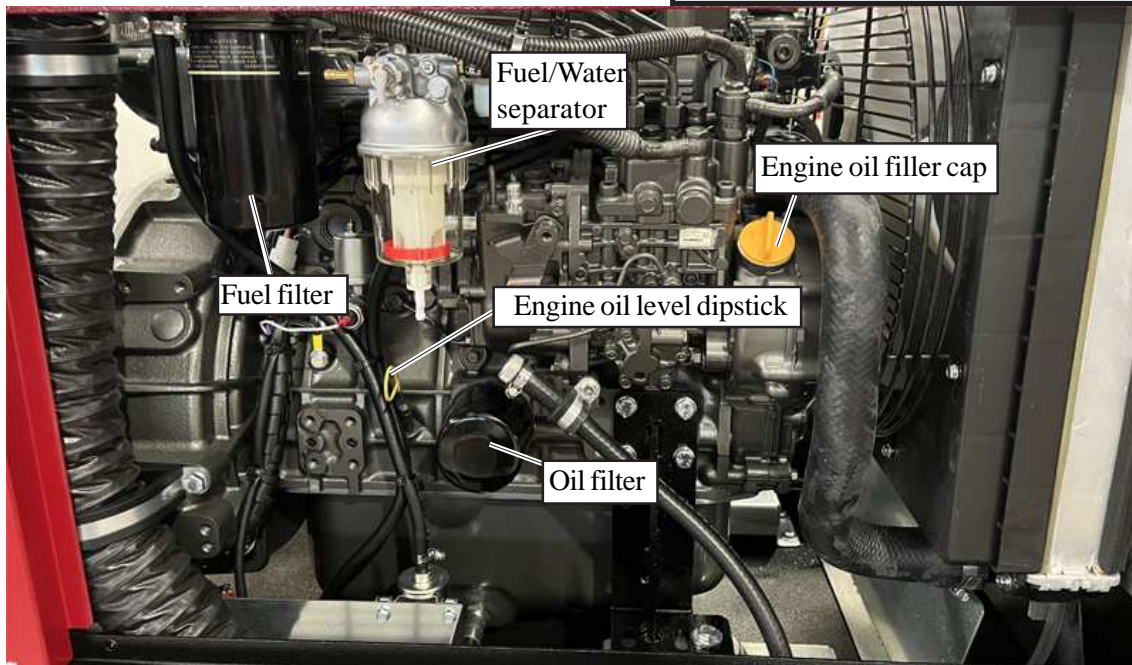
## 04.1 GENERATOR COMPONENTS

1. Intake screen
2. Openable canopy
3. Fuel filler cap
4. Lifting eye access
5. Fork lift pockets
6. Air vent screen



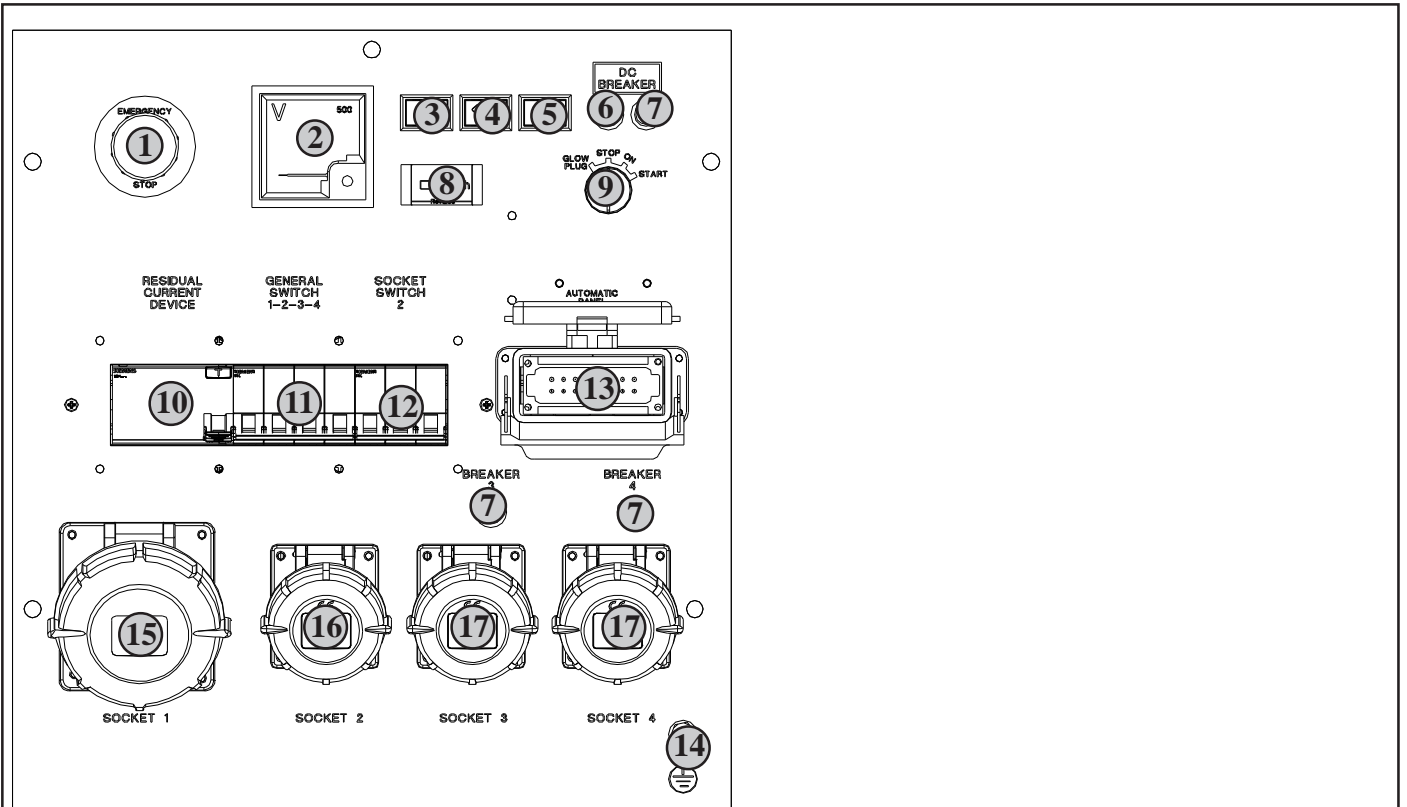
7. Exhaust vent
8. Data plate
9. Control panel
10. Fuel level visual indicator

Engine/Alternator bay right side view



Engine/Alternator bay left side view

## 04.2 CONTROL PANEL DESCRIPTION



## LEGEND

1. Emergency stop button
2. Voltmeter
3. High water temperature warning light
4. Low oil pressure warning light
5. Battery failure warning light
6. 5A circuit breaker
7. 15A circuit breaker
8. Hourmeter
9. Starting key
10. 40A 4P earth leakage circuit breaker  
or 63A 4P earth leakage circuit breaker
11. 40A 4P circuit breaker  
or 63A 4P circuit breaker
12. 16A 3P circuit breaker
13. Automatic panel and remote control connector
14. Grounding clamp
15. 400V 63A socket
16. 400V 16A socket
17. 230V 16A socket



05.1- Generator.....page.21

05.2- Engine.....page.21

05.3- General specifications.....page.21

05.4- Rating plate description.....page.22

05.5- Overall dimensions.....page.23

**05.1 GENERATOR**

	MGF 33 Y	MGF 44 Y
Type	Synchronous	
Three phase power (standby power )	33kVA - 400V	44kVA - 400V
Three phase power (prime power )	30kVA - 400V	40kVA - 400V
Single phase power (standby power )	11kVA - 230V	14,7kVA - 230V
Frequency	50 Hz	
Power factor	Cos $\phi$ 0,8	
Insulation class	H	
Degree of protection	IP 23	

**Prime power:** 10% overload permitted for 1 hour every 12 hours

**Standby power:** no overload permitted

**05.2 ENGINE**

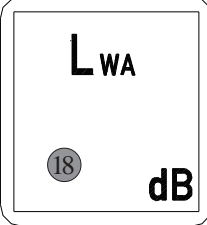
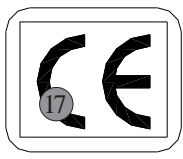
Engine Type	Yanmar 4TNV98	Yanmar 4TNV98T - Turbocharged
Number of cylinders	4	
Displacement	3319 cm <sup>3</sup>	
Power (emergency service)	46,1 hp (34,4 kWm)	55,9 hp (41,7 kWm)
Engine speed	1500 rpm	
Cooling system	Water	
Fuel type	Diesel	
Deep Oil Pan capacity	10,5 lt	
Starting system	Electric (12Vdc)	
Consumption per hour (at 75% of continuous service)	6,4 lt/h	8,1 lt/h

**05.3 GENERAL SPECIFICATIONS**

Noise power emission level	96 Lwa	97 Lwa
Battery	12 V - 62 Ah	
Fuel tank capacity	40 lt	
Operating range at 75% of continuous service power	6 h ~	5 h ~
Dry weight	690 kg	725 kg

**05.4 RATING PLATE DESCRIPTION**

A rating plate showing the operation capabilities and performance limits is provided on the unit.

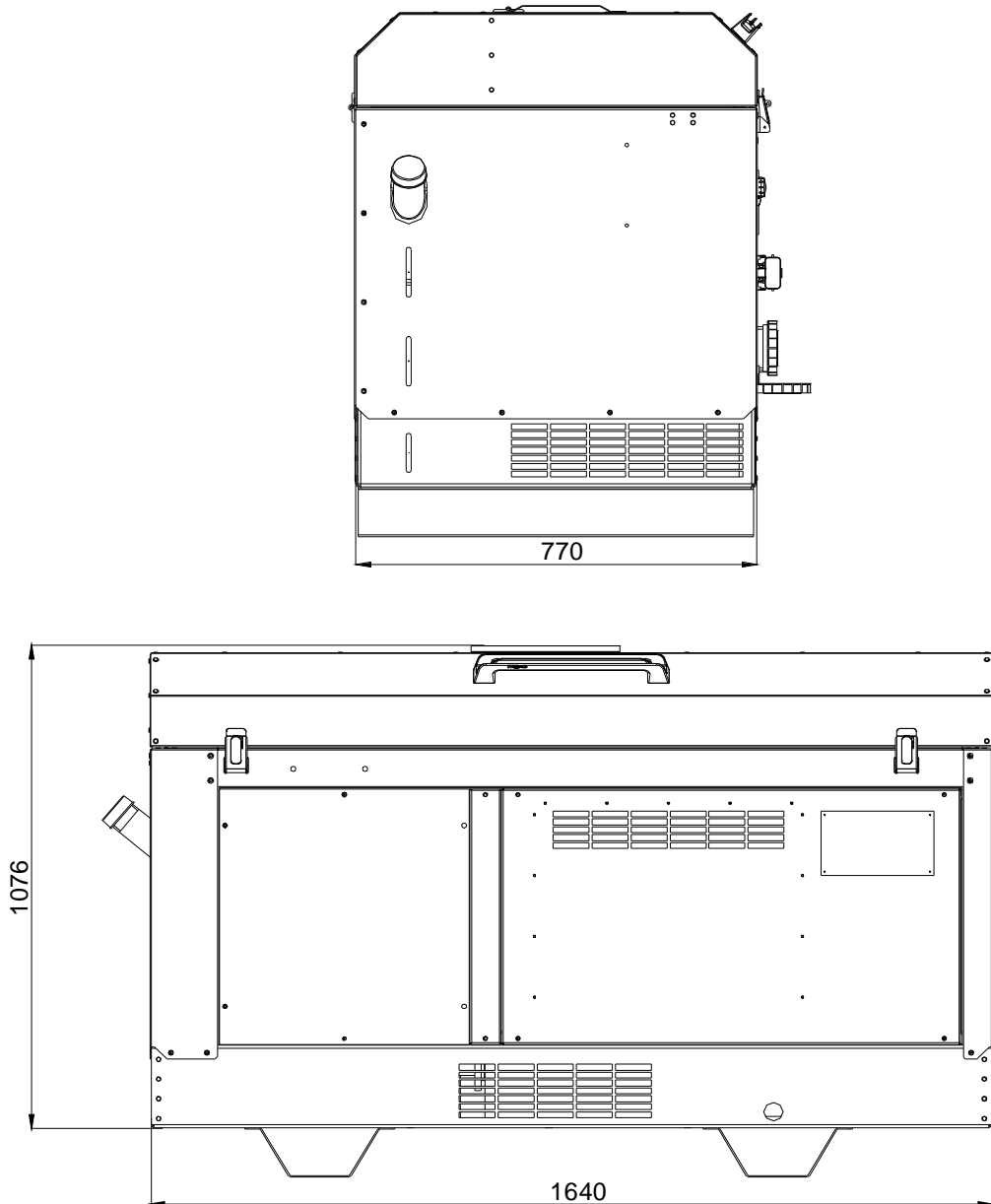
①		⑱		
Type ②	Three phase Stand-by Power	Three phase Prime Power	Single phase Power	
Rated power (kVA)	③	③	③	
Rated power (kW)	④	④	④	
Rated voltage (V)	⑤	⑤	⑤	
Rated current (A)	⑥	⑥	⑥	
Power factor	⑦			
Rated frequency	⑧			
Mechanical protection	⑨			
Insulation class	⑩			
Ambient temperature	⑪			
Altitude (m)	⑫			
Rated rpm	⑬			
Weight (kg)	⑭			
Year of manufacture	⑮			
Serial number	⑯			
<p>GENERATOR SET IS DESIGNED TO OPERATE IN AMBIENT TEMPERATURES UP TO 40°C AND 1000 MT ALTITUDE FOR HIGHER VALUES OF TEMPERATURES AND ALTITUDES PLEASE CONSULT FACTORY TO CHECK AVAILABLE POWER</p>				
ISO 8528				

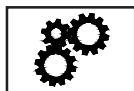
- 1. Manufacturer's logo
- 2. Generator model
- 3. Rated power kVA
- 4. Rated power kW
- 5. Rated voltage values
- 6. Rated current values
- 7. Power factor
- 8. Rated frequency
- 9. Unit's degree of protection
- 10. Insulation class

- 11. Ambient temperature
- 12. Altitude reference
- 13. Engine speed
- 14. Dry weight
- 15. Manufacture year
- 16. Serial number
- 17. EC mark
- 18. Noise level (Lwa)
- 19. Manufacturer's address

05.5 OVERALL DIMENSIONS

measures expressed in mm





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06.2-Maximum operating angles.....	page.26
06.3-Location.....	page.26
06.4-Air flow clearance.....	page.26
06.5-Checking generator operation.....	page.26
06.6-Generator unit run-in.....	page.27



## 06.1 PRELIMINARY OPERATIONS

### BEFORE STARTING THE UNIT

#### ENGINE OIL (picture 1)



The unit is delivered complete with lubricating oil.

Check the oil level in the sump using the dipstick (n.1) located on the right side of the engine; refill the correct level using the oil filler (n.2), if necessary; choose the oil viscosity according to the ambient temperature.

Wait at least five minutes, then check the oil level again. It is important that the unit is sitting on level ground.

#### FUEL CHECKING (picture 1)

Before starting the machine check the fuel level, and refuel the tank if necessary.

To refuel the machine proceed as here under indicated:

- Remove the fuel cap (n.3).
- Proceed to fill up the fuel tank.
- Put the fuel cap back on.
- In case, clean up any spilled fuel immediately before starting the machine.

#### COOLANT CHECKING



The machine is supplied filled up with coolant. Before starting the machine check for the right coolant level.

To check the coolant level remove the radiator cap after the engine has completely cooled, and check to see that coolant reaches the supply port.



**Pressurized System: Hot coolant can cause severe burns. Before opening the cooling system filler cap, stop the engine and wait for the cooling system components to cool.**

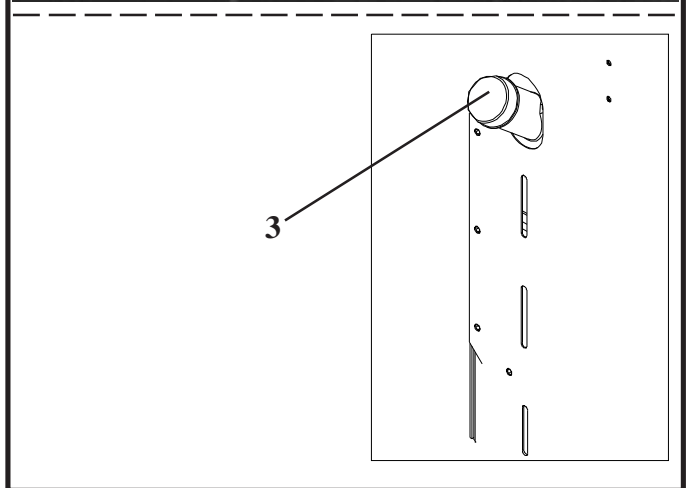
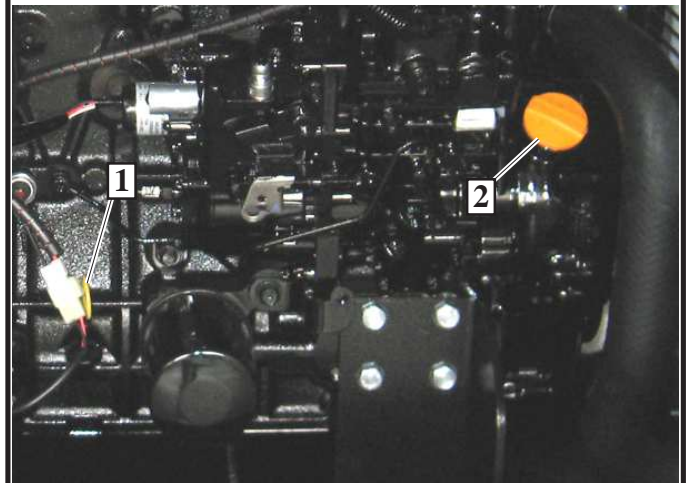


**If coolant should be leak, consult your local YANMAR dealer.**



**Be sure to close the radiator cap securely. if the cap is loose or improperly closed, coolant may leak out and decrease quickly.**

pic.1



**BATTERY**

**The unit is delivered with a fully charged battery (disconnected).**

The battery is factory filled with acid at density of 1.28 g/ml and is ready for operation.

If the starting power is not enough, it is advisable to further charge the battery as follows. For this operation it is advisable to wear protective gloves and acid resistant overalls.

- Open the battery access panel.
- Disconnect battery cables starting from the negative terminal and remove the battery from the unit.
- Make sure that the room where the recharging will take place is properly ventilated.
- Use only a DC battery charger with a proper voltage to the system.
- Connect to the battery charger the positive terminal first and then the negative terminal.
- Operate the battery charger. It is advised that the charging current be about 1/10 of the value of battery capacity (e.g. for a 44 Ah battery it is advised that the charging current be about 4,4 A).
- The battery is deemed fully charged if the charging voltage has no increased within the two hours.



**In case of accidental contact with the battery acid it is advised to:**

- Wash immediately with clean water any splash of acid into the eyes. Seek medical advice as soon as possible.
- Wash immediately with clean water any splash of acid onto the skin or clothing.
- In case of ingestion of acid: seek medical advice immediately.

**06.2 MAXIMUM OPERATING ANGLES (pic. 3)**

**Do not exceed the operating angles shown in the figure while running the power generator unit, or engine damage will occur.**

**06.3 LOCATION**

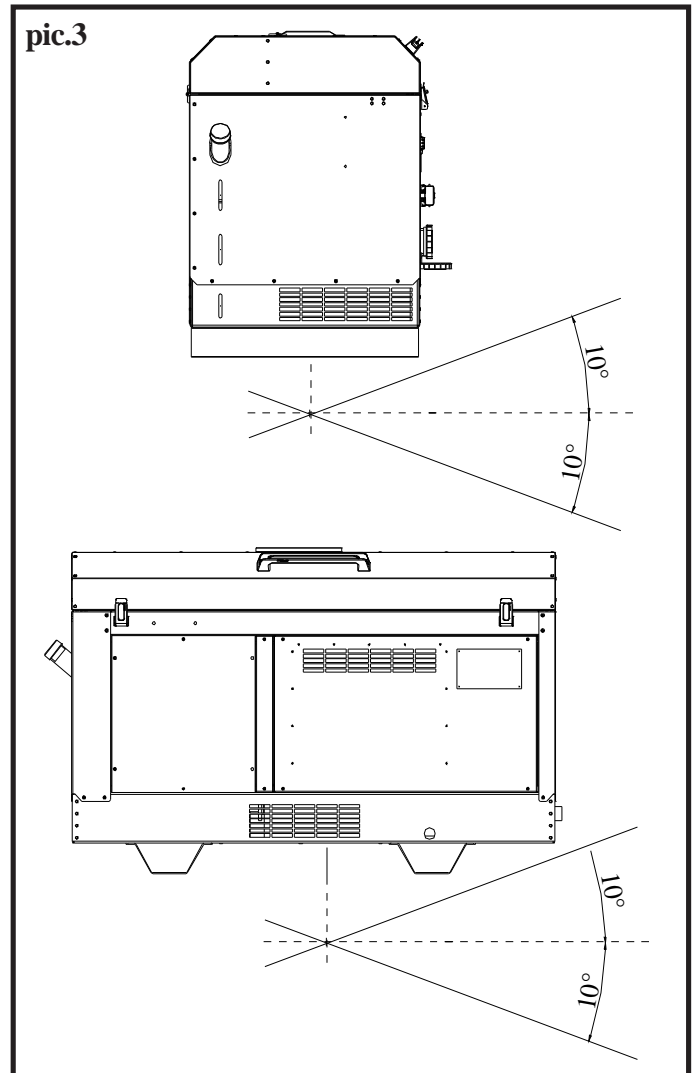
A proper installation site should be selected for the power generator if the unit is to provide dependable service.



**Operate in open, well-ventilated areas; if operated indoors, vent the engine exhaust**



**outside the building and make sure that the room has good air turnover. Keep the engine exhaust outlet away from building exterior and interior walls and air intakes.**

**06.4 AIR FLOW CLEARANCE (picture 4)**

Maintain at least 1 metre of unrestricted space on all sides of the unit. The service life and operating efficiency of the power generator is reduced when the unit is subjected to high levels of dust, moisture, and corrosive vapours.

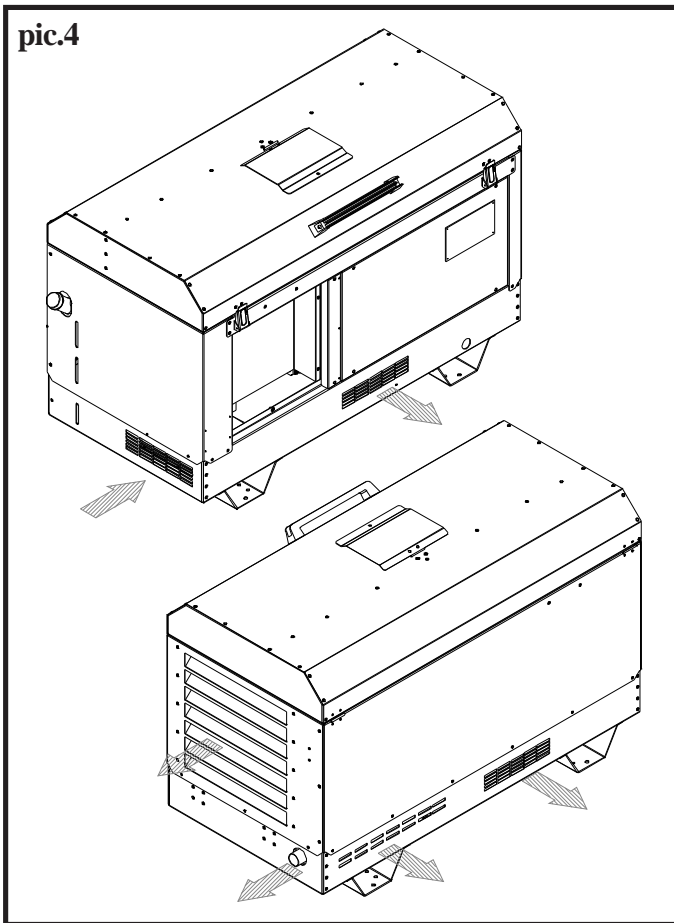


**Do not place any additional filtering device over the air intake and air outlet.**

**Keep clean the area surrounding the air intake and outlet screen.**

**06.5 CHECKING GENERATOR OPERATION**

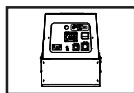
Perform a test of operation according to the instructions included in the following Chapter.



### 06.6 GENERATOR UNIT RUN-IN

The application of heavy loads to a new engine has the effect of shortening the engine life. During the first 20 hours of operation, and to allow for a good engine run-in, do not use more than 70% of the maximum power output rated in the technical specifications.

After first 50 hours of operation change the engine oil.



07.1- Control devices mounted aboard.....	page 29
07.2- Earthing the power generator.....	page 29
07.3- Starting the engine.....	page 29
07.4- Stopping the engine.....	page 30
07.5- Using the power generator unit.....	page 30
07.6- Adjustments and settings.....	page 30
07.7- Putting the power generator temporarily out of service and restarting operation.....	page 31

## 07.1 CONTROL DEVICES MOUNTED ABOARD

### Emergency stop pushbutton (picture 1)

The power generator is equipped with an EMERGENCY STOP device to stop immediately the generator in case of danger.

The device is actuated by pressing the red pushbutton (1) located on the front of the generator. The engine stops.

To disengage the emergency stop device, rotate the red pushbutton clockwise until it pops out.



**The generator cannot be restarted using the start key if the emergency stop device is activated.**

### Das, automatic engine shut off

Safety device mounted aboard. It shuts off the engine automatically to avoid possible damage, in case of one of the following irregularities:

- Coolant high temperature (n.2 pic. 1)
- Low oil pressure (n.3 pic. 1)
- Failure of the battery charger (n.4 pic. 1)

The lighting of one of the indicator lamps on the control panel points to the specific failure.



**When the engine is off and the start key switch is in the ON position, the low oil pressure and battery charger failure lamps will be illuminated.**



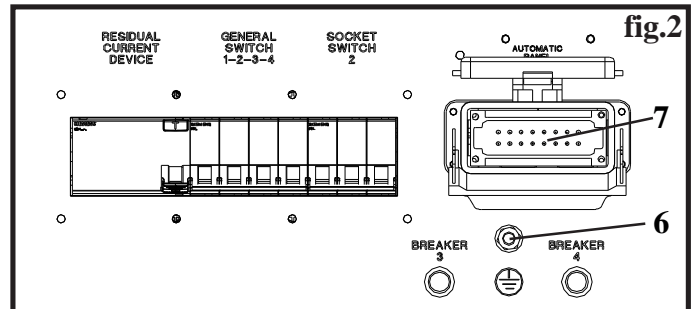
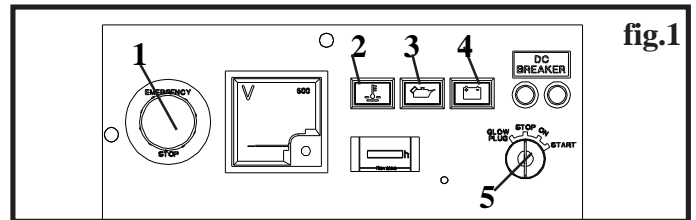
**This device does not exempt the user from checking the engine oil level by using the dipstick located on the left side of the unit. This check must be made daily.**

## 07.2 EARTHING THE POWER GENERATOR

Before starting the generator, connect it to earth by using the earth connection provided (n. 6 picture 2) and a cable of suitable size without interposing switches or other devices capable of breaking the electrical connection to earth. The earth system must conform to CEI 64-8 regulations.



**Do always connect the power generator to earth. Check that the cables are in perfect condition.**



## 07.3 STARTING THE ENGINE

### Manual mode (picture 2)

After checking and restoring if necessary the engine oil level, and fuelling the unit, (if this is the first starting, it is necessary to fuel the unit until the fuel gauge on the front panel is above the 50% of fuel capacity), proceed as follows:

- Make sure that no load is connected to the machine.
- Make sure the battery cables are connected.
- Make sure the main circuit breaker is disarmed.
- Turn the key switch (5) to “Glow Plug” position.
- Turn the key switch (5) to “Start” position.



**If the engine does not start, turn the key switch (5) to the OFF position (otherwise, the automatic engine shut off - DAS, will prevent starting the engine), wait about 10 seconds and repeat the starting procedure.**

- Let the unit run for about 10 minutes without connecting any load, to allow the regular warm-up. The unit is running at low rpm.
- Arm the main circuit breaker.

### Auto and remote control mode (picture 1 and 2)

After checking and restoring if necessary the engine oil level, and fuelling the unit, (if this is the first starting, it is necessary to fuel the unit until the fuel gauge on the front panel is above the 50% of fuel capacity), proceed as follows:

- Make sure that no load is connected to the machine.
- Make sure the battery cables are connected.
- Make sure the main circuit breaker is disarmed.
- Connect the automatic panel or the remote control to the unit using the connector (7).
- Arm the main circuit breaker.
- If the Mains is switched on, the AMF panel controls the mains circuit breaker closing, the load is fed by the mains and the unit will stay in stand-by.

When the mains is switched off, the AMF panel controls the mains circuit breaker opening and the starting procedure of the unit.

- After a suitable heating of the unit, the AMF panel controls the mains circuit breaker closing, the load is fed by the mains and the unit will stay in stand-by. When the mains is switched off, the AMF panel controls the mains circuit breaker opening and the starting procedure of the unit.
- After a suitable heating of the unit, the AMF panel controls the unit circuit breaker closing. At this time, the load is fed by the generator. At the mains return, the AMF panel controls the unit circuit breaker opening, the mains circuit breaker closing and the engine stop occurs after the heating time.

### 07.4 STOPPING THE ENGINE

#### Manual mode (picture 1)

- Disarm the main circuit breaker.
- Disconnect the loads.
- Let the engine run in this condition for about one minute, then turn the key switch (5) to position "OFF".



**Operate in well ventilated areas, making sure that exhaust gases do not collect within the working area; keep the unit away from walls or other obstructions to avoid hot air or exhaust recycling that would result in generator overheating. Use fume extractors to ensure the correct circulation if operating indoors.**

### 07.5 USING THE POWER GENERATOR UNIT

#### Earth leakage circuit breaker (picture 3)

The unit is equipped with an earth leakage circuit breaker (1) capable of ensuring user protection in case of accidental contact with live parts or failure of the insulation system of connected users.

Press the test button T every month: the earth leakage circuit breaker should trip and de-energise the sockets.

If this would not be the case, then it is advisable not to use the unit and immediately seek technical advice.



**Apply only to authorised Gen Set centres for technical service on electrical components.**

- Before connecting a load to sockets on the front panel of the unit, make sure that the generator supplies enough power for the tools that are connected.

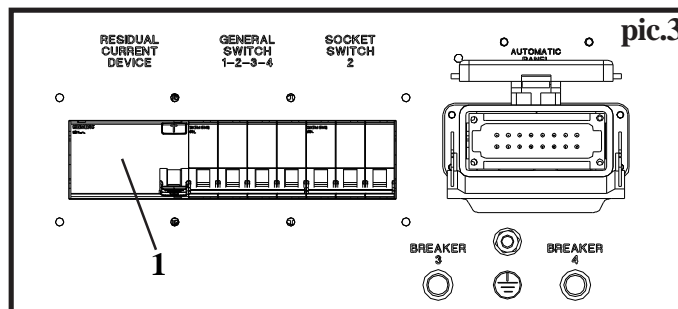


**Beware: electric motors' starting current requirements are considerably higher than**



**rated full load values.**

- Before connecting a load to single phase and/or three phase sockets, make sure that the circuit breakers are open.
- At the end of work, before removing plugs from panel sockets, open the circuit breakers.
- Connect loads to generator's sockets only by using cables of suitable size and in good conditions, with plugs fitted for the sockets on the panel. Do not use adapters.



### 07.6 ADJUSTMENTS AND SETTINGS

All controls for the adjustments and settings necessary when using the generator are mounted on the control panel and are described in this Chapter.

It is forbidden to perform further adjustments and settings other than those described here.



**Any adjustment and setting other than those made by the manufacturer may compromise the reliability of the power generator and make the warranty void.**



**The engine oil level should be checked daily by the operator, using the dipstick located on the left side of the unit.**



**Do not disconnect the battery cables when the generator is running as this can cause improper operation of the battery charger.**



**Stop the engine before fuelling. Do not smoke when fuelling. Do not perform fuelling near flames.**

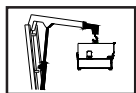


**Do not overfill the fuel tank and clean up any spillages. Check daily that there is no leakage of fuel or oil from the engine.**

### **07.7 PUTTING THE GENERATOR TEMPORARILY OUT OF SERVICE AND RESTARTING OPERATION**

If the generator is put out of service for longer than 6 months, it is advisable to disconnect the negative terminal of the battery and to leave engine oil and fuel in to protect mechanical parts, along with the fuel supply, injection system and the fuel tank from oxidation.

When putting the generator back to service, all fluids should be replaced, the battery should be charged, engine belts, if any, all couplings and fuel pipes and seals should be checked. In case of longer out of service periods, contact Gen Set Service Department.



08.1- Packing, transporting and storing the unit.....page 33

08.2- Lifting and moving the unit.....page 33



## 08.1 PACKING, TRANSPORTING AND STORING THE UNIT

### Packaging

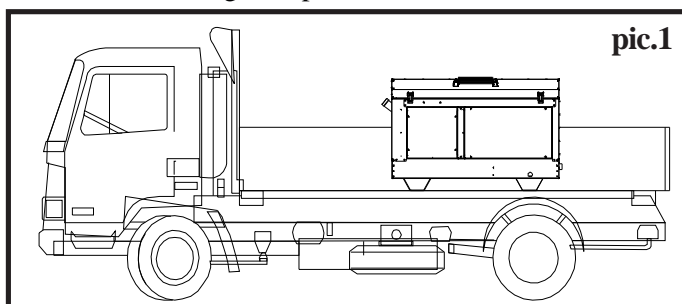
The package is provided by factory.



**Disposing of packaging onto land is strictly forbidden.**

### Transport (picture 1)

Do not overturn the generator (with or without packaging) during transport. The generator must be transported without fuel to avoid any leakage. The generator must be secured to the vehicle during transportation.



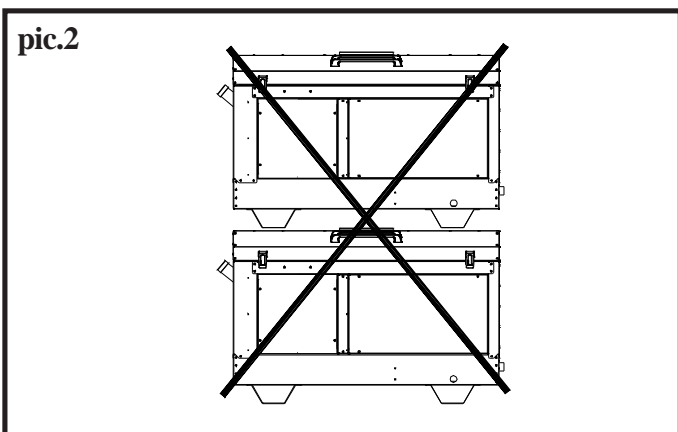
### Storage

The generator unit must be stored in the horizontal position.



**Don't stack the unit (picture 2).**

**In case of long term installation, secure the generator using the anchor points provided in its base.**



## 08.2 LIFTING AND MOVING THE UNIT



**All lifting operations must be carried out by qualified personnel, such as fork lift operators, crane operators and slingers. The operator should be deemed responsible for using the correct method of slinging and lifting the generator unit.**



**If lifting hooks are used to move the unit, the movement speed of the unit must be very low and uniform.**

### Lifting and moving

The generator must be lifted and moved as indicated in pictures 3 and 4. Use a fork lift of proper capacity, fitted with wide forks, and lift the unit as illustrated (pic. 3).

Make sure that lift ropes or chains are approved and of sufficient capacity. Always use the lifting eyes provided by the manufacturer as indicated.



**The lifting eye is calibrated for the machine total weight only. It is absolutely forbidden to lift the machine fixed to a road tow or other.**



**Never leave the load insecure. Lay the generator on the ground gently.**



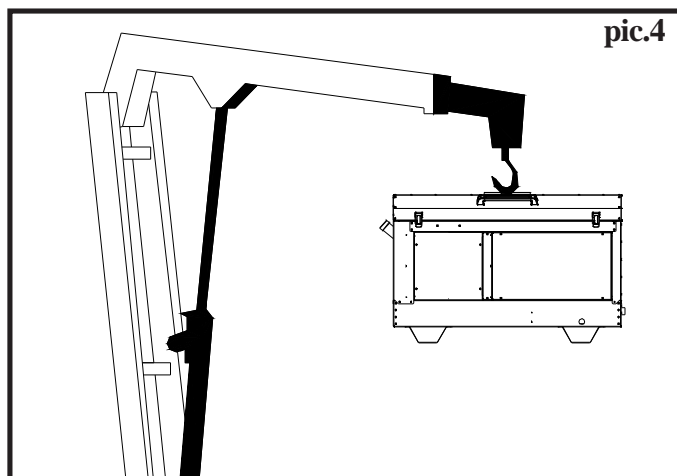
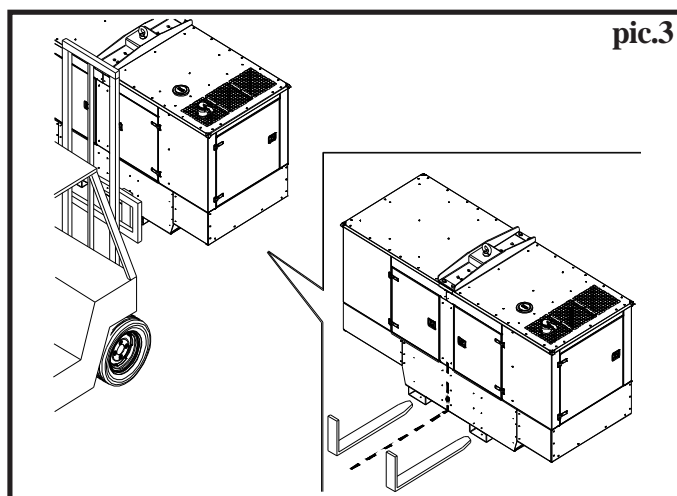
**When lifting and moving the generator, do not stay or walk within its proximity.**

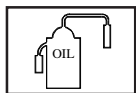


**When moving and transporting the generator, do not tilt it excessively.**



**The unit must remain suspended only for the time it takes to move.**





09.1- Maintenance.....page 35

09.1 MAINTENANCE

MAINTENANCE SCHEDULE

○: Check    ◇: Change    ●: Contact your authorized dealer or distributor of Yanmar industrial engines

System	Operation	Every day	Periodic maintenance interval					
			Every 50 hours	Every 250 hours	Every 500 hours	Every 1000 hours	Every 1500 hours	Every 2000 hours
Coolant system	Check and top up the coolant	○						
	Check and clean the radiator fins		○					
	Check and adjust the V belt of the fan		○ 1st time	◇ 2st and subsequent				
	Empty, rinse and fill the cooling system with new coolant					◇ every year, depending on which occurs first condition		
Cylinder head	Adjust the light of intake/exhaust valves					●		
	Grind the seat of intake/exhaust valves							●
Electrical system	Check the LEDs	○						
	Check the battery		○					
Engine oil	Verificare il livello dell'olio	○						
	Drain and replace the oil		◇ 1st time	◇ 2st and subsequent				
	Replace oil filter			◇ 2st and subsequent				
Engine speed check	Check and adjust the control lever and the engine speed control	○		○				
Emission control warranty	Inspect, clean and test the fuel injectors						●	
	Inspect the turbocharger (pressure washing, if necessary)						●	
	Inspect the venting system of the basement						●	
Fuel	Check the fuel level in the tank and refill	○						
	Empty the fuel tank			○				
	Empty the fuel filter / water separator		○					
	Check the fuel filter / water separator	○						
	Clean the fuel filter / water separator				○			
	Replace the fuel filter				◇			
Pipes	Replace the power system pipes and the cooling pipes							● or every 2 years
Intake and exhaust	Clean or replace the air filter element			○	◇			
Engine	Visual verification	○						

**Checking the engine oil level (picture 1)**

• The oil level check must be performed when the engine is cold, before starting or at least 5 minutes after engine shut-off.



**To check the oil level correctly, the power generator must be sitting on level ground.**



**The lubricating oil and the engine can be very hot, take care when performing these checks and in particular when cleaning the dipstick.**

Check the lubricating oil level using the dipstick (1), located on the right side of the engine.

- Pull the dipstick out and clean it with cloth or paper towels.
- Fully push the dipstick back into its seating.
- Pull the dipstick out again and check that the lubricating oil level is between the minimum and maximum marks.

If the oil level is too low add new oil (see the **Engine oil grade table**) through the oil fill cap (2), located on the right side of the engine.

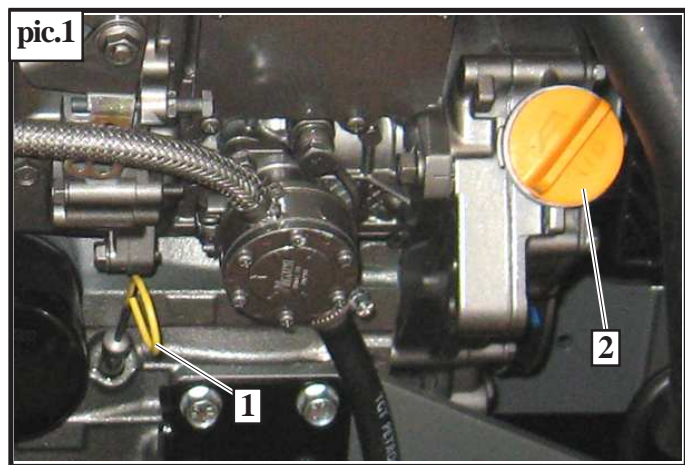
Wait at least five minutes, then recheck that the oil level is between the minimum and maximum marks.



**Do not overfill the oil above the maximum mark on the dipstick because oil combustion can cause a sudden increase in engine speed.**



**The system Oil Alert will stop the engine automatically before the oil goes down under the safety limit. Yet, to avoid the nuisance of an unexpected turning off to always check the level of the oil engine before the starting.**



**Engine oil grade table**

-										+									
40	35	30	25	20	15	10	5	0	5	10	15	20	25	30	35	40	45	50	
										SAE 10W									
										SAE 20W									
										SAE 20									
										SAE 30									
										SAE 40									
										SAE 10W-30									
										SAE 15W-40									
										SAE 20W-50									

**Changing engine oil (picture 2)**



**Be sure to stop the engine before draining engine oil.**



**When draining engine oil, place some container underneath the engine and dispose it according to local regulations.**



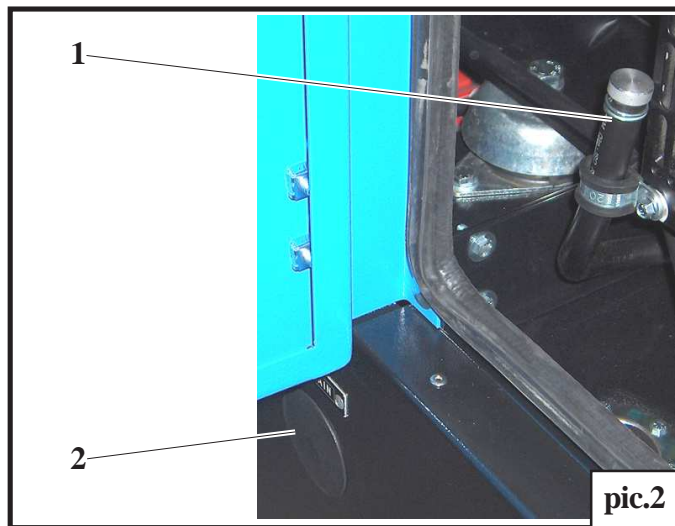
**Do not drain oil after running the engine. Allow engine to cool down sufficiently.**

Change oil after the initial 50 hours of operation and every 200 hours thereafter.

For the substitution to proceed like it follows:

- Remove the oil discharge cap (2) located on the right side of the basement.
- To have the pipe of unloading escaped oil (1) through the special hole.

To remove the aluminum cork from the extremity of the pipe and to attend that the whole oil flows from the motor. Drain oil will drain easier when the oil is warm.



**Replacing the oil filter cartridge (picture 3)**

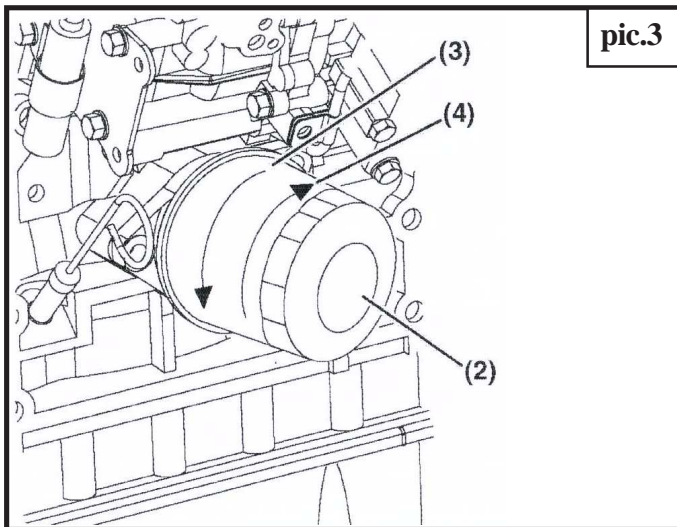
**Be sure to stop the engine before changing the oil filter cartridge.**



**Allow engine to cool down sufficiently, oil can be hot and cause burns.**

Remove the engine oil filter as follows:

- Turn the old oil filter cartridge (2) counterclockwise (3) using an oil filter wrench.
- Clean the engine oil filter mounting face.
- Lightly coat the gasket on the new oil filter with engine oil. Install the new engine oil filter manually by turning it clockwise (4) until it contacts the mounting surface.

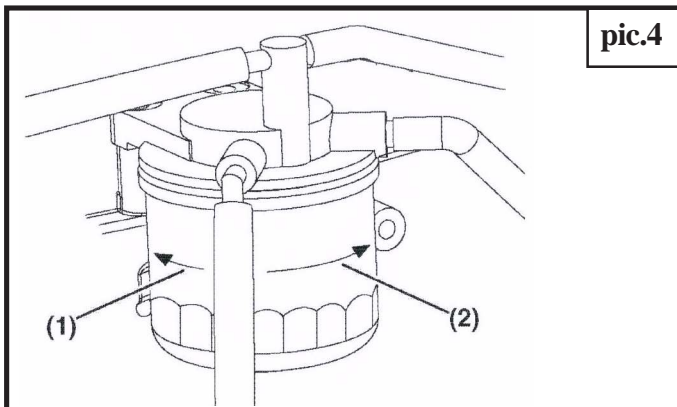


pic.3

**Fuel filter cartridge replacement (picture 4)**

Replace the fuel filter at specified intervals to prevent contaminants from adversely affecting the diesel fuel flow.

- Stop the engine and allow it to cool.
- Close the fuel filter / water separator.
- Remove the fuel filter using a filter wrench to turn it to the left (1). When removing the fuel filter, carefully hold it to prevent the fuel from spilling. Wipe up all spilled fuel.
- Clean the filter mounting surface and apply a small amount of diesel fuel to the gasket of the new fuel filter.
- Install the new fuel filter. Hand-tighten it to the right (2) until it comes in contact with the mounting surface.



pic.4

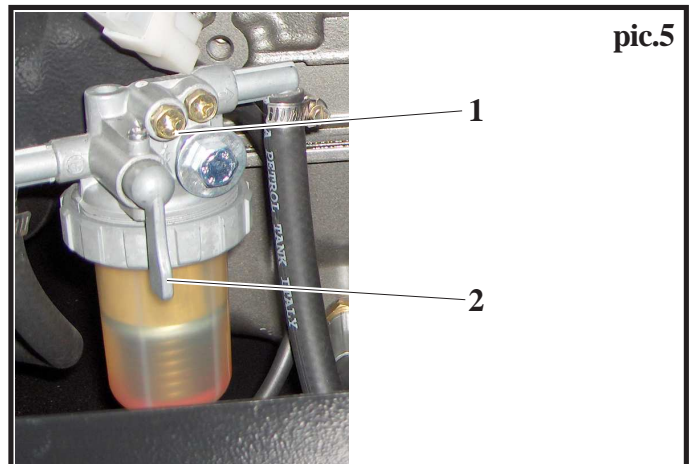
**Bleeding the fuel system (figure 5)**

The bleeding of the fuel system is required if:

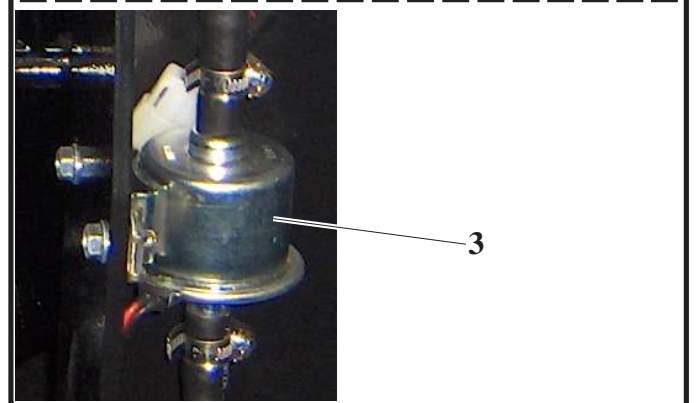
- After removing and then reinserting the fuel filter and hoses;
- After emptying the fuel tank.
- Before starting the engine after a prolonged period of inactivity.

Procedures

- Loosen the vent screw (1) of the filter.
- Open the tap (2) of the filter.
- Turn the ignition key of the machine to the "ON" position for 10-15 seconds. This will allow the electric pump (3) to prime the fuel system
- When fuel escapes, tighten the screw (1).



pic.5

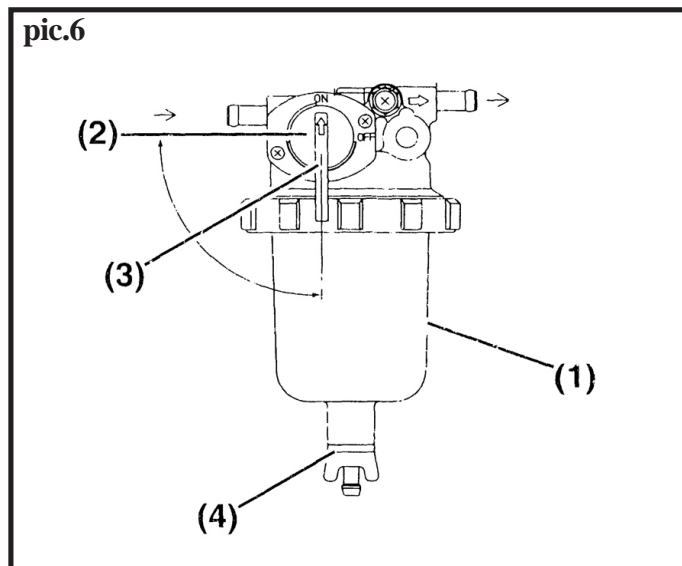


### Drain Fuel Filter / Water Separator (picture 6)

Drain the fuel filter / water separator whenever there are contaminants, such as water, collected in the bottom of the cup. NEVER wait until the scheduled periodic maintenance if contaminants are discovered.

Drain the fuel filter / water separator as follows:

- Position an approved container under the fuel filter / water separator (1) to collect the contaminants..
- Close (2) the fuel tap (3).
- Loosen the drain tap (4) at the bottom of the fuel filter / water separator. Drain any water collected inside.
- Hand-tighten the drain cock.
- Open the fuel tap (3).
- Be sure to prime the diesel fuel system when you are done.
- Check for fuel leaks.



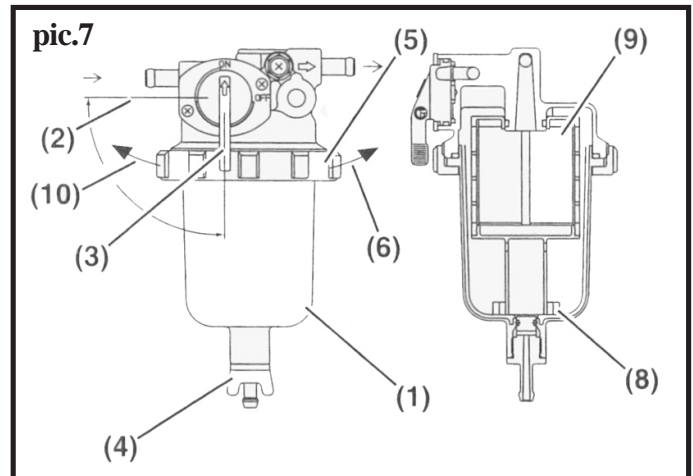
### Clean Fuel Filter / Water Separator (picture 7)

Periodically clean the fuel / water separator element and inside cup.

Clean the fuel filter / water separator as follows:

- Position an approved container under the fuel filter / water separator to collect the contaminants.
- Close (2) the fuel tap (3).
- Loosen the drain tap (4) and drain the contaminants.
- Turn the retaining ring (5) to the left (10) and remove the cup (1).
- Carefully hold the cup to prevent fuel from spilling. If you spill any fuel, clean up the spill completely.
- Remove the float ring (8) from the cup. Pour the contaminants into the container and dispose of it properly.
- Clean the element (9) and inside cup. Replace the element if it is damaged.
- Install the element and O-ring in the bracket.
- Position the float ring in the cup.
- Check the condition of the O-ring. Replace if necessary.

- Install the cup to the bracket by tightening the retaining ring to the right (6).
- Close the drain tap.
- Open the fuel tap (3).
- Prime the fuel system.
- Check for leaks.



### Clean Air Cleaner Element (picture 8)

A dirty air filter cause difficulty in the start of the engine, diminution of power and dysfunctions, and it shortens in substantial way the duration of the motor. The filtering element must always be kept clean. Progress like it follows:

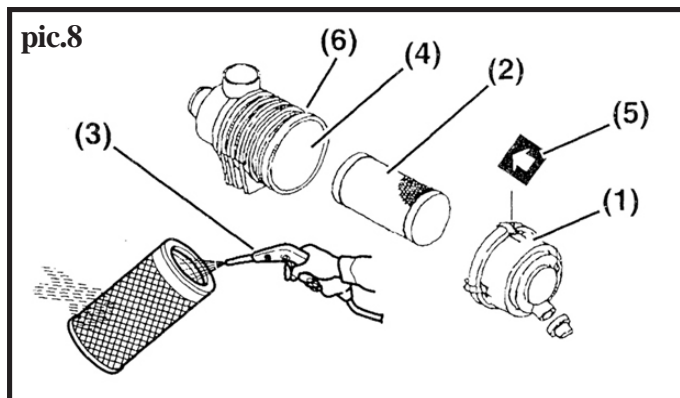
- Unlatch and remove the air cleaner cover (1).
- Remove the element (2).
- Blow air (3) through the element from the inside out using 42-71 psi compressed air to remove the particulates. Use the lowest possible air pressure to remove the dust without damaging the element.
- Replace the element with a new one if the element is damaged, excessively dirty or oily.
- Clean inside of the air cleaner cover.
- Reinstall the element into the air cleaner case (4).
- Reinstall the air cleaner cover making sure you match the arrow (5) on the cover with the arrow on the case (6).



**Prohibited the use of alive flames.**



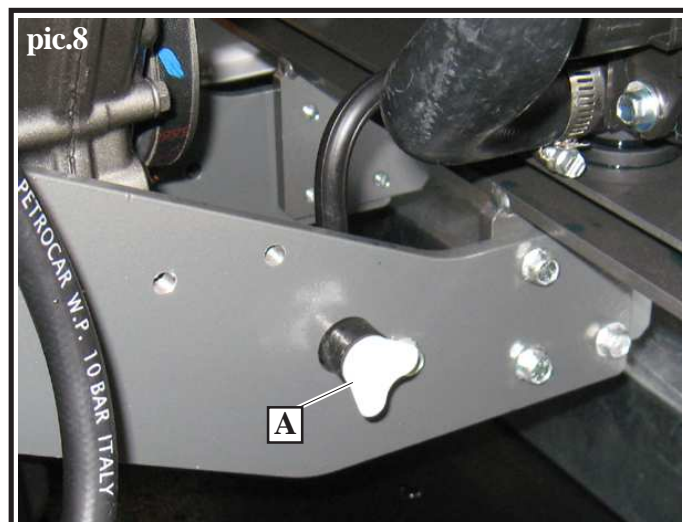
**Do never use the generator group without the cartridge of the air filter.**



### Changing coolant (picture 8)

To unload the coolant liquid to proceed like it follows:

- Place a container under the coolant drain tap (A).
- To open the coolant drain tap (A).
- To open the radiator cap. With the radiator cap kept closed, a complete drain of water is impossible.



### Remedies for quick decrease of coolant

- Check any dust and dirt between the radiator fins and tube. If any, remove them from the fins and the tube.
- Check the tightness of the fan belt. If loose, tighten it securely.
- Check the internal blockage in the radiator hose. If scale forms in the hose, clean with the scale inhibitor or its equivalent.

### Cleaning the generator



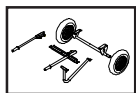
**Water is a electricity conductor, therefore it can causes shorts.**

- Always shut off the unit, disconnect and remove the battery before starting the washing.
- In case it is necessary to wash the generator unit, it is recommended not to direct the jet of water to the alternator and/or the electric or electronic components of the unit.
- At the end of the washing, disconnect capacitors from the alternator before starting the unit.
- Let the unit run in this condition until fully dry.
- Only at this point, after switching off the unit, reconnect the capacitors to the alternator.

### Unplanned maintenance

Apply only to authorised Gen Set centres for any unplanned service operations related to electrical components.

Apply to service centres authorised by the manufacturer of the engine for any problems related to the engine.



10.1- A.M.F. panel.....pag.41

10.2- Remote control.....pag.41

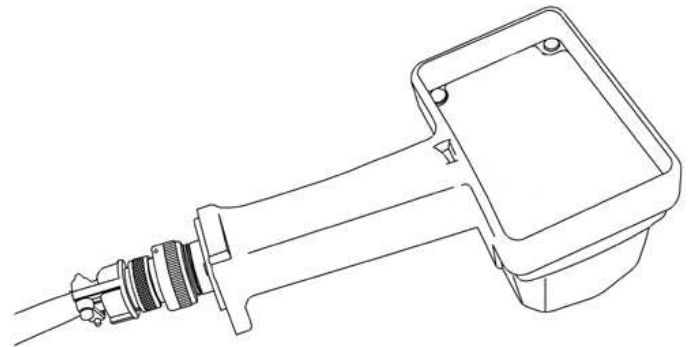
10.3- GRT2W.....pag.41



10.1 A.M.F. PANEL



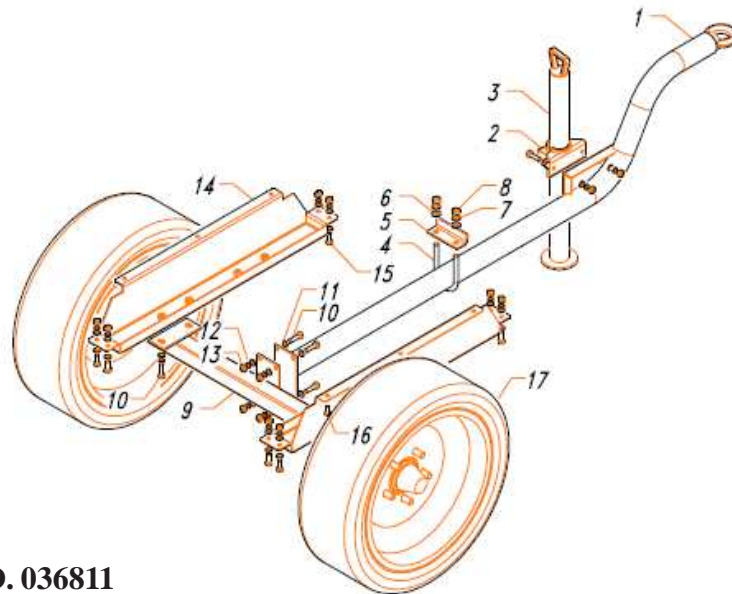
10.2 REMOTE CONTROL



N.	DESCRIPTION	SPARE PART CODE
-	AMF panel	154968/C 156200/C

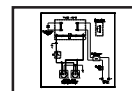
N.	DESCRIPTION	SPARE PART CODE
-	Remote control + cable (20 m)	164548

10.3 GRT2W

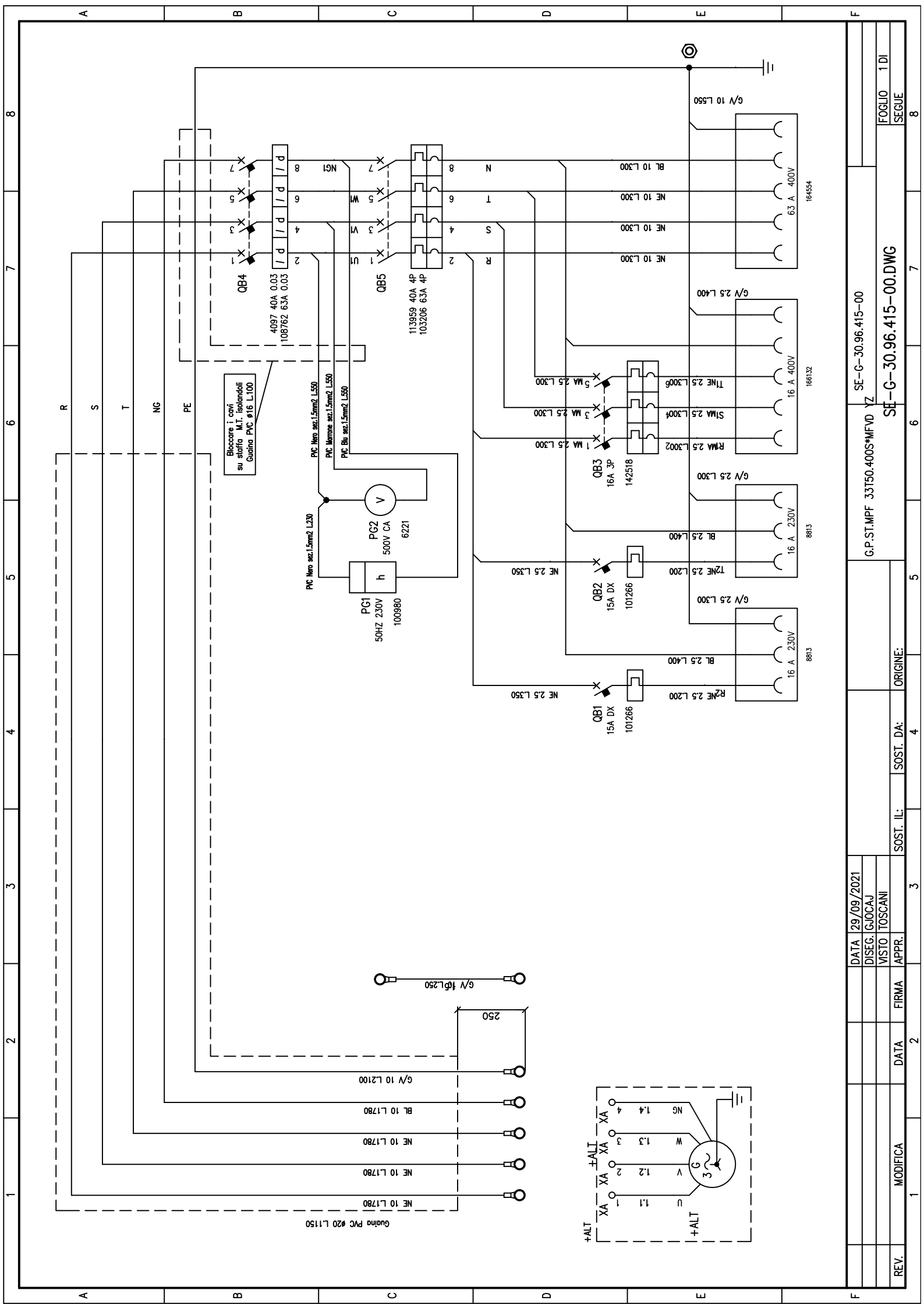


COD. 036811

Rif.	Cod.	Q.ty	Descrizione	Description
1	024754	1	Timone carrello	Drawbar
2	61216	1	Staffa bloccaggio D.48	Fastening bracket D.48
3	62606	1	Stabilizzatore	Fixed stabilizer
4	11725	1	Cavallotto 2" M12	Clamp 2" M12
5	63544	1	Staffa cavallotto	Bracket
6	10311	2	Rondella D12	Washer D.12
7	A10329	2	Rondella D12 GRW	Washer D.12 GRW
8	11107	2	Dado M12	Nut M12
9	024755	1	Assale carrello	Axle
10	11181	10	Vite M10x35	Screw M10x35
11	10303	32	Rondella D.10	Washer D.10
12	10325	18	Rondella D.10 GRW	Washer D.10 GRW
13	10217	14	Dado M10	Nut M10
14	024752	2	Staffa carrello	Bracket
15	10097	8	Vite M10x25	Screw M10x25
16	10119	6	Vite M8x20	Screw M8x20
17	71471	2	Ruota	Wheel

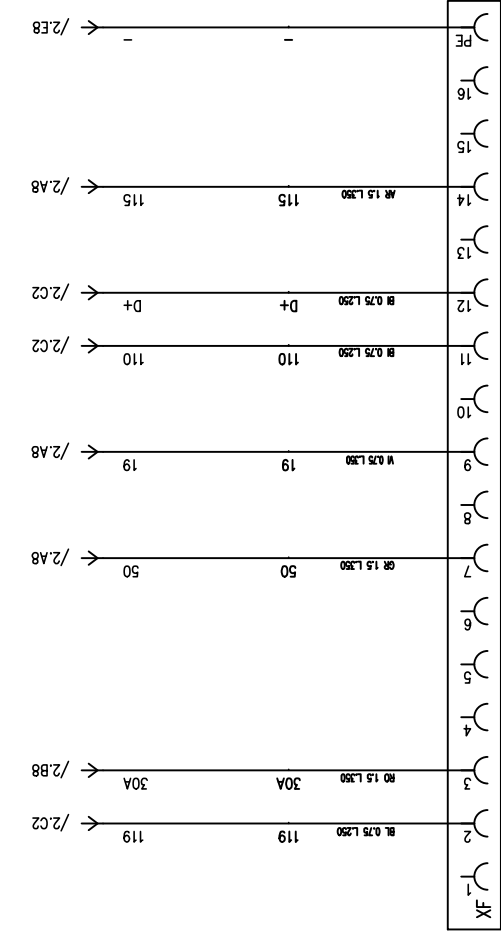


11.1- Electrical diagram.....page 43

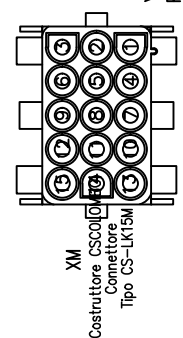
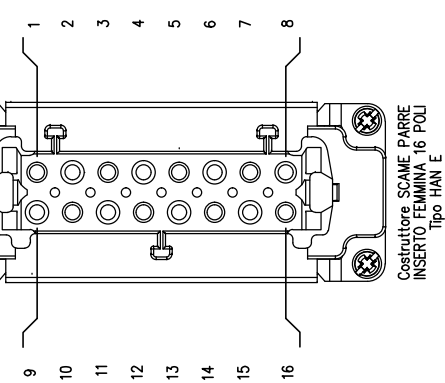


		29/09/2021		G.P.ST.MPF 33T50.400S*MFVD YZ		SE-G-30.96.415-00	
		DISEG. GJOCAJ		VISTO TOSCANI		FOGLIO 1 DI	
		DATA		FIRMA		SE-G-30.96.415-00.DWG	
		APPR.		SOST. DA:		SEGUE	
		2		4		8	

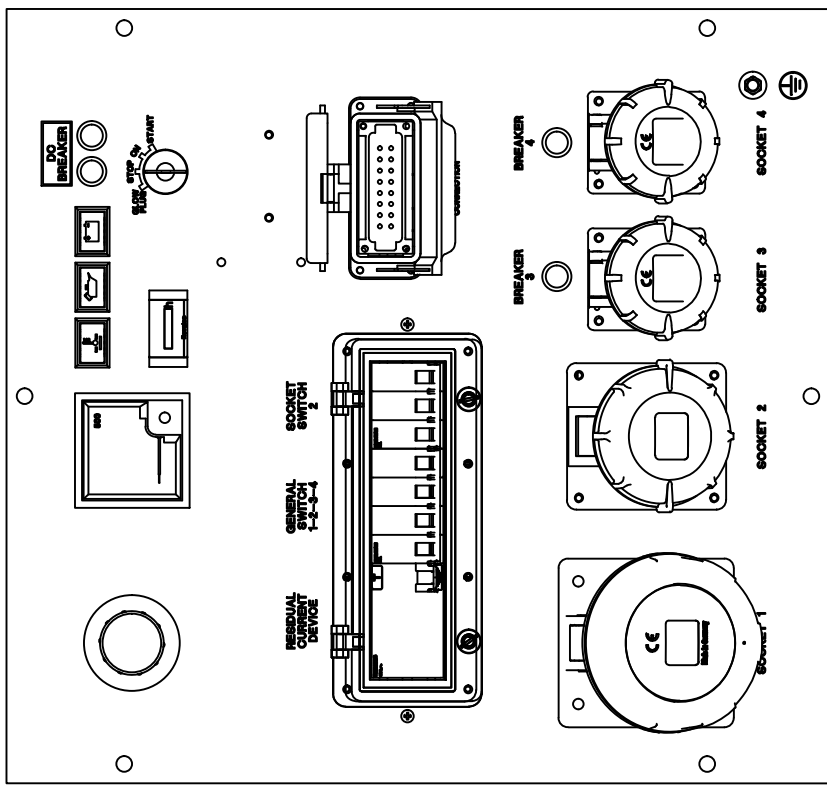
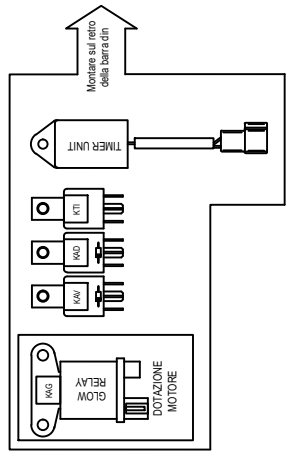




9 - 2,7 KTI:87  
 10 - D+  
 11  
 12 - 16 GS0007



- VISTA PIN
- 1 - + QB7
  - 2 - - KAV:86
  - 3 - 51 KAV:87
  - 4 - S GS0007
  - 5 - 110
  - 6 - 119
  - 7
  - 8



REV.	MODIFICA	DATA	FIRMA	APPR.	VISTO	TOSCANI	DISEG.	GJOCAU	DATA	29/09/2021	G.P.ST.MPF 33T50.400SMFVD YZ		SE-G-30.96.415-00					
											SOST. IL:	SOST. DA:	ORIGINE:					
											1	2	3	4	5	6	7	8
													SE-G-30.96.415-00.DWG	F				
													FOGLIO	3 DI				
													SEGUE	8				



12.1- Statement of warranty.....page 47

# General Warranty Conditions



## 1 - GENERAL

- THIS WARRANTY APPLIES TO ALL PRODUCTS MANUFACTURED BY GEN SET.
- GEN SET DECLARES THAT THE PRODUCT HAS BEEN BUILT IN COMPLIANCE WITH THE NATIONAL AND INTERNATIONAL REGULATIONS. EXCELLENT QUALITY OF MATERIALS HAS BEEN USED, GOOD CONSTRUCTION OF THE UNIT AND THAT HAS BEEN TESTED THOROUGHLY AND UNDERGONE STRICT INSPECTIONS BY GEN SET QUALITY CHECK.
- WARRANTY IS VALID UNDER THE CONDITIONS OUTLINED IN THE FOLLOWING DOCUMENT.
- THE WARRANTY IS APPLICABLE AND COVERS MANUFACTURING DEFECTS, DEFECTS OF THE PRODUCT AND OF THE MATERIALS USED. WARRANTY REFERS EXCLUSIVELY TO REPAIR OR REPLACEMENT OF COMPONENTS OR ASSEMBLIES, RECOGNIZED BY GEN SET WITH FLAWS IN THE DESIGN, MANUFACTURE AND CONSTRUCTION.
- THIS WARRANTY IS HANDLED DIRECTLY BY GEN SET THROUGH ITS AUTHORIZED SERVICE NETWORK. IT WILL BE UP TO THE GEN SET SERVICE POINT TO COORDINATE AND MONITOR DIRECTLY THE REPAIR UNDER WARRANTY.

## 2 - WARRANTY TERMS

### A - THIS WARRANTY DOES NOT APPLY AND DOES NOT COVER:

- THE DETERIORATION OF THE PRODUCT DUE TO NORMAL WEAR;
- DAMAGES OR DEFECTS CAUSED BY MISUSE, NEGLIGENCE AND/OR RECKLESS USE OF THE PRODUCT OR USE IN CONTRAST WITH THE INDICATIONS PRESCRIBED BY THE USE AND MAINTENANCE MANUAL AND/OR INSTALLATION MANUAL SUPPLIED WITH THE UNIT;
- FLAWS OR DEFECTS CAUSED BY EVENTS OUTSIDE THE CONTROL OF GEN SET OR CAUSED BY FORCE MAJEURE OR UNFORESEEABLE CIRCUMSTANCES (E.G. EARTHQUAKE, TSUNAMI, TORNADOES, FLOODS, FLOODING, STORMS, RIOTS, WAR CIVIL, INTERNATIONAL CONFLICTS, ETC.);
- FLAWS OR DEFECTS CAUSED BY THE USE OR BY THE CONNECTION OF THE UNIT TO ANY PRODUCT OR ACCESSORY, CONSUMABLE, SOFTWARE AND/OR SERVICE THAT IS NOT ORIGINAL (FOR NOT ORIGINAL WE MEAN THAT IT HAS NOT BEEN PRODUCED BY GEN SET) OR BY USING IT IN A WAY (IMPROPERLY) IT WAS NOT BUILT FOR;
- FLAWS OR DEFECTS CAUSED BY OPENING, MODIFYING OR REPAIRING THE PRODUCT BY OTHER THAN GEN SET PERSONNEL OR ITS AUTHORIZED SERVICE POINTS, AS IN CASE OF REPAIRS CARRIED OUT WITH NON-GENUINE PARTS BY UNKNOWN WORKSHOPS OR WHEN THE DEFECT HAPPENED AFTER AN INTERVENTION OF AN UNAUTHORIZED SERVICE POINT;
- FLAWS OR DEFECTS CAUSED BY THE EXPOSURE OF THE PRODUCT TO WATER OR HEAT SOURCES, WIND, SOLAR AND MAGNETIC ENERGY (E.G. LONG EXPOSURE TO SUN LIGHT, RADIATORS, ELECTRIC HEATERS AND/OR ELECTROMAGNETIC FIELDS), SURGES OF STEAM OR HUMIDITY, OR DEFECTS CAUSED BY USING THE UNIT IN EXTREME ENVIRONMENTAL AND THERMAL CONDITIONS, OUTSIDE OF THE ALLOWED STANDARD CONDITIONS, DEFECTS CAUSED BY CORROSION, INFILTRATION OF ORGANIC SUBSTANCES OF ANY KIND OR FOOD OR LIQUIDS IN THE UNIT OR BECAUSE OF AGENTS OR CHEMICALS (E.G. ALCOHOL, THINNERS, DETERGENTS AND/OR CLEANERS OF ANY KIND OR NATURE);
- FLAWS OR DEFECTS OCCURRED POST-DELIVERY DUE TO INCORRECT HANDLING AND/OR TRANSPORTATION OF THE MACHINE;
- ANY EXPENSES OR SERVICES RELATED TO THE STANDSTILL OF THE MACHINE (E.G., RENT OF A UNIT, CRANE, AND FORKLIFT OR EXPENSES DUE TO THE STANDSTILL OF BOAT OR OF A BUILDING SITE ETC.) AS WELL AS ALL DAMAGES DETERMINED BY THE FAILURE OR MALFUNCTION OF THE MACHINE;
- EXPENSES RELATED TO TROUBLESHOOTING IN CASE THE CAUSE IS NOT DUE TO FAULTY OR DEFECTIVE GEN SET PARTS / COMPONENTS;
- ANY LOCAL TAXES RELATED TO THE PLACE OF INTENDED USE OF THE PRODUCT.

### B - LIMITS OF COVERAGE

- THIS WARRANTY APPLIES TO THE GENERATOR IN ALL ITS COMPONENTS EXCEPT FOR THE ENGINE, THE ALTERNATOR AND ALL ITEMS NOT SUPPLIED BY GEN SET AND USED BY THE CUSTOMER IN THE INSTALLATION AND APPLICATION OF THE MACHINE.
- THE ENGINE AND ALTERNATOR WARRANTY IS MANAGED DIRECTLY BY THE RESPECTIVE MANUFACTURERS, IN ACCORDING WITH THEIR "WARRANTY CONDITIONS".
- LABOUR AND SPARE PARTS WILL BE COVERED BY GEN SET, AS WELL AS THE COST OF REMOVAL AND RE-INSTALLATION OF THE GENERATOR UP TO TWO WORKING HOURS AND TRANSFER EXPENSES UP TO 100 Km.
- CONSUMABLES (FILTERS, BELTS, LUBRICATING OILS, ETC.), COST FOR REMOVAL AND RE-INSTALLATION EXCEEDING THE PREVIOUS MENTIONED CONDITIONS, ARE TO BE COVERED BY THE CUSTOMER.
- EVENTUAL EXPENSES DUE TO THE GENERATOR DOWNTIME OR THE RENT OF OTHER REPLACEMENT UNITS SHALL BE COVERED BY THE CUSTOMER.
- EVENTUAL EXPENSES FOR TRANSPORT OF GENERATORS / SPARE PARTS UNDER WARRANTY WILL HAVE TO BE AUTHORIZED IN ADVANCE BY GEN SET BY USING STANDARD MEANS OF TRANSPORT.
- ANY PART REPLACED UNDER WARRANTY ACCORDING TO THESE CONDITIONS, IS GUARANTEED FROM THE DATE OF SHIPMENT UNTIL THE DATE THE MACHINE WARRANTY EXPIRES. THE WARRANTY OPERATIONS, HOWEVER, WILL NOT EXTEND OR RENEW THE WARRANTY PERIOD.
- THE WARRANTY PERIOD FOR THE MOUNTED SPARE PARTS ENDS WHEN THE WARRANTY PERIOD OF THE WHOLE UNIT EXPIRES.
- PRODUCT FOR THE CHECK AND/OR REPAIR UNDER WARRANTY WILL HAVE TO BE SHIPPED IN THEIR ORIGINAL BOX OR IN A SUITABLE ONE, TO AVOID ANY FURTHER DAMAGE DUE TO TRANSPORTATION OR HANDLING.

**IMPORTANT - WITHIN THE LIMITS SET BY APPLICABLE LAW, GEN SET DECLINES ALL LIABILITY FOR ANY LOSS, DAMAGE OR DATA ALTERATION, PROFIT LOSS, LOSS CAUSED BY THE USE OF THE PRODUCT OR BY ITS FUNCTIONALITY, LOSS OF BUSINESS, LOSS OF CONTRACTS, LOSS OF REVENUES, LOSS OF EXPECTED SAVINGS, LOSS DUE TO THE INCREASE OF COSTS AND EXPENSES OR FOR ANY INDIRECT LOSS OR DAMAGE, SPECIAL OR CONSEQUENTIAL, WITHIN THE LIMITS SET BY APPLICABLE LAW. LIABILITY OF GEN SET WILL BE LIMITED TO THE PURCHASE PRICE OF THE PRODUCT.**

## 3 - USER'S RESPONSIBILITY:

- IT IS USER'S RESPONSIBILITY TO:
- ENSURE THAT THE USE AND MAINTENANCE CONDITIONS ARE COMPLIANT WITH THE INSTRUCTIONS AND REQUIREMENTS REPORTED IN THIS MANUAL;
- ENSURE THAT THE EXPECTED ROUTINE MAINTENANCE OPERATIONS AT HIS EXPENSE, INCLUDING THE REPLACEMENT OF LUBRICANTS, COOLANTS, ZINC ANODES IF PRESENT, FILTERS AND ALL CONSUMABLES, ARE CARRIED OUT AT AUTHORIZED GEN SET SERVICE CENTERS AND ARE DOCUMENTED AND TRACEABLE WITHIN THE WARRANTY PERIOD;
- INFORM GEN SET OR ITS AUTHORIZED SERVICE POINT OF ANY DEFECT OR FLAW IN THE PRODUCT AND HOWEVER THE WILL TO EXERCISE THE WARRANTY;
- PROVIDE EVIDENCE OF THE DATE WHEN THE PRODUCT WAS RECEIVED, IF REQUIRED BY GEN SET;
- GIVE PROPER NOTICE OF A FAULT IN WARRANTY, MAKING THE PRODUCT AVAILABLE FOR REPAIR.

## 4 - WARRANTY PERIOD

- WARRANTY PERIOD STARTS FROM THE MOMENT THE END USER PURCHASES THE PRODUCT AND IS VALID FOR **TWENTY FOUR (24) MONTHS** OR **TWO THOUSAND (2000)** HOURS OF OPERATION FOR THE 1500 RPM UNITS AND **TWENTY FOUR (24) MONTHS** OR **ONE THOUSAND (1000)** HOURS OF OPERATION FOR THE 3000 RPM UNITS AND IT ENDS WHEN THE FIRST ONE OF THESE TWO LIMITS IS REACHED.
- THE WARRANTY CAN BE VALIDATED, IT WILL BE EFFECTIVE AND OPERATIVE WITH THE FORWARDING OF THE PROPERLY COMPLETED WARRANTY CARD (SUPPLIED WITH EACH MACHINE) TO GEN SET, WITHIN FIFTEEN (15) DAYS FROM THE DELIVERY DATE OF THE GOODS. NO WARRANTY SERVICE WILL BE RECOGNIZED UNTIL GEN SET HAS RECEIVED THE APPROPRIATE FORM FILLED OUT IN ALL OF ITS PARTS (IN THE ABSENCE OF SUCH WARRANTY CARD, THE USER WILL BE REQUIRED TO PRESENT A PROOF OF PURCHASE DOCUMENT FOR THE PRODUCT, IN PARTICULAR A RECEIPT OR INVOICE OR EQUIVALENT DOCUMENT, WHICH SHOWS THE DATE AND PLACE OF PURCHASE OF THE PRODUCT).

**IMPORTANT - REGARDLESS OF WHAT IS STATED IN THIS WARRANTY, THE CONSUMER HAS THE RIGHTS RECOGNIZED BY THE APPLICABLE LAW IN FORCE GOVERNING THE SALE / TRADING OF THE CONSUMER GOODS THESE RIGHTS ARE NOT AFFECTED OR LIMITED IN ANY WAY BY THE RELEASE OF THIS WARRANTY.**

## 4 - EXTENSION

- IN THE ABSENCE OF A PROOF OF PURCHASE BY THE CUSTOMER / USER, THE DATE OF SHIPMENT OF THE UNIT SHALL APPLY AND HOWEVER NOT BEYOND TWELVE (12) MONTHS OF STORAGE FROM THE DATE OF THE TRANSPORT DOCUMENT.

UPON EXPIRATION OF THE WARRANTY PERIOD OR WHEN THE WARRANTY BECOMES VOID, THE COST OF SPARE PARTS AND LABOR, USED IN SERVICE, WILL BE CHARGED ACCORDING TO THE APPLICABLE RATES QUOTED IN ADVANCE. THE REPAIR WILL BE CARRIED OUT ONLY IF THE CUSTOMER AGREES TO IT. GEN SET S.P.A. RESERVES THE RIGHT TO ALTER ITS PRODUCTS WITHOUT ANY OBLIGATION TO UPDATE OF THE PREVIOUS MODELS IN THE MARKET.

# Condizioni Generali di Garanzia



## 1 - GENERALITÀ

- LA PRESENTE GARANZIA SI APPLICA A TUTTI I PRODOTTI DI FABBRICAZIONE GEN SET.
- GEN SET DICHIARA E GARANTISCE CHE IL BENE È STATO COSTRUITO NEL PIENO RISPETTO DELLE NORMATIVE NAZIONALI E/O INTERNAZIONALI REGOLANTI LA MATERIA. L'OTTIMA QUALITÀ DEI MATERIALI USATI E LA BUONA COSTRUZIONE DELL'APPARECCHIO, E ANCORA CHE LO STESSO È STATO COLLAUDATO ACCURATAMENTE E SOTTOPOSTO A SEVERE ISPEZIONI DAL CONTROLLO QUALITÀ GEN SET.
- LA COPERTURA DELLA GARANZIA È VALIDA ALLE CONDIZIONI RIPORTATE NEL SEGUENTE OPUSCOLO.
- LA GARANZIA È APPLICABILE E COPRE I VIZI DI FABBRICAZIONE, I DIFETTI DEL PRODOTTO E DEI MATERIALI COSTITUENTI AD ESCLUSIONE DI QUELLI CONTEMPLATI NEI LIMITI DI COPERTURA; PER GARANZIA SI INTENDE ESCLUSIVAMENTE LA RIPARAZIONE O SOSTITUZIONE GRATUITA DEI COMPONENTI O ASSIEMI, RICONOSCIUTI DA GEN SET AFFETTI DA VIZI DI PROGETTAZIONE, FABBRICAZIONE E COSTRUZIONE.
- QUESTA GARANZIA VIENE GESTITA DIRETTAMENTE DA GEN SET ATTRAVERSO LA SUA RETE DI ASSISTENZA AUTORIZZATA; SARÀ COMPIUTO DELL'UFF. ASSISTENZA / SERVICE GEN SET COORDINARE E SEGUIRE DIRETTAMENTE GLI INTERVENTI DI RIPARAZIONE IN GARANZIA.

## 2 - TERMINI DI GARANZIA

### A - LA PRESENTE GARANZIA NON È APPLICABILE E NON COPRE:

- IL DETERIORAMENTO DEL PRODOTTO DOVUTO A NORMALE USURA / NORMALE DEPERIMENTO PER USO DEL PRODOTTO;
- IDANNI O DIFETTI CAUSATI DA UN USO IMPROPRIO, NEGLIGENTE O IMPRUDENTE DEL PRODOTTO DI FORME O IN CONTRASTO CON LE INDICAZIONI PRESCRITTE DAL MANUALE D'ISTRUZIONI E/O DAL MANUALE D'ISTRUZIONI FORNITI A CORREDO DELLA MACCHINA;
- I VIZI O DIFETTI CAGIONATI DA ALTRI EVENTI AL DI FUORI DELLA SFERA DI CONTROLLO DI GEN SET OPPURE DETERMINATI DA FORZA MAGGIORE O CASO FORTUITO (AD ES. TERREMOTO, MAREMOTO, ALLAGAMENTI, TEMPORALI DI FORTE ENTITÀ, TUMULTI, GUERRA CIVILE, CONFLITTI INTERNAZIONALI, ETC.);
- I VIZI O DIFETTI PRESUNTI TALI, CAUSATI DALL'USO O COLLEGAMENTO DELL'UNITÀ CON QUALSIVOGLIA PRODOTTO, ACCESSORIO, CONSUMABILE, SOFTWARE E/O SERVIZIO NON ORIGINALE, INTENDENDOSI PER NON ORIGINALE, QUALSIASI PRODOTTO NON FABBRICATO O FORNITO DA GEN SET O DA UN USO DELLO STESSO DIVERSO (IMPROPRIO) DA QUELLO PER CUI È STATO REALIZZATO;
- I VIZI O DIFETTI DETERMINATI DALL'APERTURA, MODIFICA O RIPARAZIONE DEL PRODOTTO DA PARTE DI SOGGETTI DIVERSI DA GEN SET E DAI CENTRI DI ASSISTENZA TECNICA AUTORIZZATI GEN SET OVVERO IN CASO DI RIPARAZIONI EFFETTUATE FACENDO USO DI PARTI DI RICAMBIO NON OMOLOGATE / ORIGINALI PRESSO ORGANIZZAZIONI NON RICONOSCIUTE, NONCHÉ EVENTUALI VIZI O DIFETTI OCCORSI AL PRODOTTO SUCCESSIVAMENTE AD INTERVENTI DI OFFICINE NON AUTORIZZATE DA GEN SET;
- I VIZI O DIFETTI GENERATI E/O DETERMINATI DALL'ESPOSIZIONE DEL PRODOTTO ALL'ACQUA OPPURE A FONTI DI CALORE E/O DI ENERGIA TERMICA, EOLICA, SOLARE, MAGNETICA (AD ES. LUNGA ESPOSIZIONE A RAGGI SOLARI, TERMOSIFONI, CALORIFERI, STUFE ELETTRICHE E/O A GAS, FORNI A MICROONDE, CAMPI ELETTROSTATICI E/O ELETTROMAGNETICI) OPPURE A FONTI DI VAPORE O UMIDITÀ, OPPURE DIFETTI DETERMINATI DALL'UTILIZZO DELLO STESSO IN CONDIZIONI AMBIENTALI O TERMICHE ESTREME FUORI DEI LIMITI CONSENTITI OPPURE NEL CASO DI CORROSIONE, DI OSSIDAZIONE, DI INFILTRAZIONE DI SOSTANZE ORGANICHE DI QUALSIVOGLIA NATURA OPPURE DI CIBI O DI LIQUIDI NEL PRODOTTO OPPURE DI AGENTI O PRODOTTI CHIMICI (AD ES. ALCOOL, DILUENTI, DETERSIVI E/O DETERGENTI DI QUALSIVOGLIA NATURA E/O TIPO);
- I VIZI O DIFETTI GENERATI E/O DETERMINATI, SUCCESSIVAMENTE ALLA CONSEGNA, PER ERRA, MOVIMENTAZIONE E/O TRASPORTO DEL PRODOTTO;
- EVENTUALI SPESE RELATIVE A SERVIZI LEGATI AL FERMO MACCHINA (ES. NOLEGGIO MACCHINA, GRU, CARRELLO ELEVATORE, SPESE FERMO IMBARCAZIONE, SPESE FERMO CANTIERE, ECC.) COSÌ COME IN GENERALE TUTTI I DANNI DERIVATI O DERIVABILI DA CATTIVO O MANCATO FUNZIONAMENTO DELLA MACCHINA;
- SPESE INERENTI A RICERCA GUASTI, NEL CASO IN CUI LA CAUSA NON SIA ATTRIBIBILE A VIZI O DIFETTOSITÀ DI PARTI O COMPONENTI GEN SET;
- EVENTUALI IMPOSTE LOCALI RIFERITE AL LUOGO DI DESTINAZIONE D'USO DEL PRODOTTO.

### B - LIMITI DI COPERTURA

- QUESTA GARANZIA È APPLICABILE AL PRODOTTO IN TUTTE LE SUE COMPONENTI AD ECCEZIONE DEL MOTORE E DELL'ALTERNATORE E DI PARTICOLARI NON FORNITI DA GEN SET E UTILIZZATI DAL CLIENTE NELL'INSTALLAZIONE ED APPLICAZIONE DELLA MACCHINA.
- LA GARANZIA RELATIVA AL MOTORE ED ALL'ALTERNATORE È GESTITA DAI RISPETTIVI COSTRUTTORI IN BASE ALLE LORO "CONDIZIONI GENERALI DI GARANZIA".
- SONO A CARICO DI GEN SET I COSTI RELATIVI A MANO D'OPERA E RICAMBI, I COSTI DI RIMOZIONE E RE-INSTALLAZIONE DEL GRUPPO SE QUESTE OPERAZIONI HANNO DURATA INFERIORE O PARI ALLE 2 ORE, I COSTI DI TRASFERTA DEL PROPRIO PERSONALE ENTRO UN RAGGIO DI 100 Km.
- SONO A CARICO DEL CLIENTE I MATERIALI DI CONSUMO (FILTRI, CINGHIE, OLII LUBRIFICANTI, ETC.), I COSTI DI RIMOZIONE, RE-INSTALLAZIONE E TRASFERTA ECCEDENTI, IN TERMINI DI VALORIZZAZIONE ECONOMICA, A QUANTO SPECIFICATO SOPRA.
- SONO A CARICO DEL CLIENTE EVENTUALI SPESE DI FERMO MACCHINA O SPESE PER NOLEGGIO DI ALTRI GRUPPI IN SOSTITUZIONE.
- EVENTUALI SPESE DI TRASPORTO DI GRUPPI / PARTI IN GARANZIA, DOVRANNO ESSERE PREVENTIVAMENTE AUTORIZZATE DA GEN SET UTILIZZANDO I METODI STANDARD DI TRASPORTO.
- QUALSIASI PARTE SOSTITUITA IN ACCORDO A QUESTE CONDIZIONI DI GARANZIA, È GARANTITA DALLA DATA DI SPEDIZIONE ALLA DATA DI SPEDIZIONE DEL PERIODO DI GARANZIA PER L'INTERO PRODOTTO.
- IL PERIODO DI GARANZIA PER LE PARTI DI RICAMBIO MONTATE TERMINA CON LO SCADERE DEL PERIODO DI GARANZIA PER IL PRODOTTO.
- QUALSIASI SPEDIZIONE DI UN PRODOTTO RIGUARDANTE LA VERIFICA E/O LA RIPARAZIONE IN GARANZIA, DOVRÀ ESSERE EFFETTUATA CONFEZIONANDO LO STESSO NEL PROPRIO IMBALLO ORIGINALE O IN UNO ADEGUATO AD EVITARE QUALSIASI ULTERIORE DANNO DA TRASPORTO E/O MOVIMENTAZIONE.
- IMPORTANTE - NEI LIMITI PREVISTI DALLA LEGGE APPLICABILE, GEN SET DECLINA OGNI RESPONSABILITÀ PER PERDITE, DANNO O ALTERAZIONI DI DATI, PERDITA DI PROFITTI, PERDITE CAUSATE DALL'UTILIZZO DEL PRODOTTO O DALLA SUA FUNZIONALITÀ, PERDITA DI AFFARI, PERDITE DI CONTRATTI, PERDITA DI RICAVI, PERDITA DI PRESENTI RISPARMI, PERDITE PER INCREMENTO DI COSTI O DI SPESE, O PER QUALSIVOGLIA PERDITA O DANNO INDIRETTO, SPECIALE O CONSEGUENZIALE, NEI LIMITI PREVISTI DALLA LEGGE APPLICABILE, LA RESPONSABILITÀ DI GEN SET SARÀ LIMITATA AL VALORE DI ACQUISTO DEL PRODOTTO.**

### 3 - RESPONSABILITÀ DELL'UTILIZZATORE:

- È RESPONSABILITÀ DELL'UTILIZZATORE
- ASSICURARSI CHE LE CONDIZIONI D'USO E LA MANUTENZIONE DELLA MACCHINA SIANO CONFORMI ALLE ISTRUZIONI E ALLE PRESCRIZIONI INDICATE NEL MANUALE DISTRIBUITO PER IL PRODOTTO;
- ASSICURARSI CHE LE OPERAZIONI DI MANUTENZIONE ORDINARIA, PREVISTE E A SUO CARICO, COMPRESA LA SOSTITUZIONE DI LIQUIDI LUBRIFICANTI E REFRIGERANTI, O ANODI SACRIFICIALI DI ZINCO, SE PRESENTI, DI FILTRI, DI MATERIALI SOGGETTI A NORMALE USURA, ETC., VENGANO EFFETTUATE PRESSO I CENTRI ASSISTENZA GEN SET E CORRETTAMENTE DOCUMENTATE PER LA RELATIVA RINTRACCIABILITÀ ENTRO IL LASSO TEMPORALE O COPERTURA DELLA GARANZIA;
- COMUNICARE A GEN SET O A SUO CENTRO ASSISTENZA AUTORIZZATA EVENTUALI DIFETTI E VIZI DEL PRODOTTO E COMUNQUE LA VOLONTÀ DI VALERSI DELLA PRESENTE GARANZIA;
- FORNIRE PROVA DELLA DATA DI RICEVIMENTO DEL PRODOTTO QUALORA RICHIESTO DA GEN SET;
- DARE IL GIUSTO PREAVVISO DEL GUASTO IN GARANZIA, METTENDO IL PRODOTTO A DISPOSIZIONE PER LA RIPARAZIONE.

### 4 - DURATA DELLA GARANZIA

- LA GARANZIA HA INIZIO AL MOMENTO DELL'ACQUISTO DA PARTE DEL CLIENTE FINALE / UTILIZZATORE CON VALIDITÀ DI VENTICINQUE (24) MESI OPPURE DUEMILA (2000) ORE DI ESERCIZIO PER GRUPPI A TREMILA (3000) GIRI, CON TERMINE AL PRIMO DEI DUE LIMITI RAGGIUNTO.
- LA GARANZIA POTRÀ ESSERE FATTA VALERE, SARÀ EFFICACE E OPERANTE CON L'INOLTRO, A GEN SET, DELLA CARTOLINA DI GARANZIA (FORNITA A CORREDO DI OGNI MACCHINA), DEBITAMENTE COMPILATA, ENTRO QUINDICI (15) GIORNI DALLA DATA DI CONSEGNA DELLA MERCE, NESSUN INTERVENTO IN GARANZIA SARÀ RICONOSCIUTO QUALORA GEN SET NON ABBA RICEVUTO L'APPOSITO MODULO COMPILATO IN TUTTE LE SUE PARTI (IN ASSENZA DI TALE CARTOLINA DI GARANZIA VERRÀ RICHIESTO UN DOCUMENTO COMPROVANTE L'ACQUISTO DEL PRODOTTO; IN PARTICOLARE LA RELATIVA FATTURA, SCONTRINO FISCALE O DOCUMENTO EQUIVALENTE DAL QUALE RISULTINO LA DATA E IL LUOGO DI ACQUISTO DELLO STESSO).
- IMPORTANTE - INDIPENDENTEMENTE DA QUANTO PREVISTO NELLA PRESENTE GARANZIA IL CONSUMATORE È COMUNQUE TITOLARE DEI DIRITTI PREVISTI DALLA LEGISLAZIONE ATTUALMENTE IN VIGORE DISCIPLINANTE LA VENDITA / LA COMMERCIALIZZAZIONE DEI BENI DI CONSUMO, DIRITTI CHE NON VENGONO QUINDI IN ALCUN MODO PREGIUDICATI E LIMITATI DAL RILASCO DELLA PRESENTE GARANZIA.**

### 4 - ESTENSIONI

- IN ASSENZA DI UN DOCUMENTO COMPROVANTE L'ACQUISTO DA PARTE DEL CLIENTE FINALE / UTILIZZATORE, FARÀ FEDE LA DATA DI SPEDIZIONE DEL GRUPPO E COMUNQUE NON OLTRE DODICI (12) MESI DI STOCCAGGIO DELLA MERCE DALLA DATA CERTA DEL DOCUMENTO DI TRASPORTO RELATIVO ALLA FORNITURA.
- ALLO SCADERE DEL PERIODO DI GARANZIA O AL VERIFICARSI DI UNA DELLE CAUSE CHE COMPORTANO LA DECADENZA DELLA GARANZIA STESSA, GLI INTERVENTI DI ASSISTENZA VERRANNO EFFETTUATI CON ADEBITO DEL COSTO PER LE PARTI SOSTITuite E LE SPESE DI MANODOPERA SECONDO LE TARIFFE IN VIGORE, IL CUI PREZZO SARÀ COMUNICATO PER MEZZO DI UN PREVENTIVO DI SPESA; SI PROCEDERÀ ALLA RELATIVA RIPARAZIONE SOLO SU ESPLICITO ASSENSO DEL PROPRIETARIO DEL BENE. GEN SET S.P.A. SI RISERVA IL DIRITTO DI MODIFICARE I SUOI PRODOTTI SENZA ALCUN OBBLIGO DI AGGIORNAMENTO PER I MODELLI PRECEDENTEMENTE IMMESSI SUL MERCATO.