



GE 3200 SX

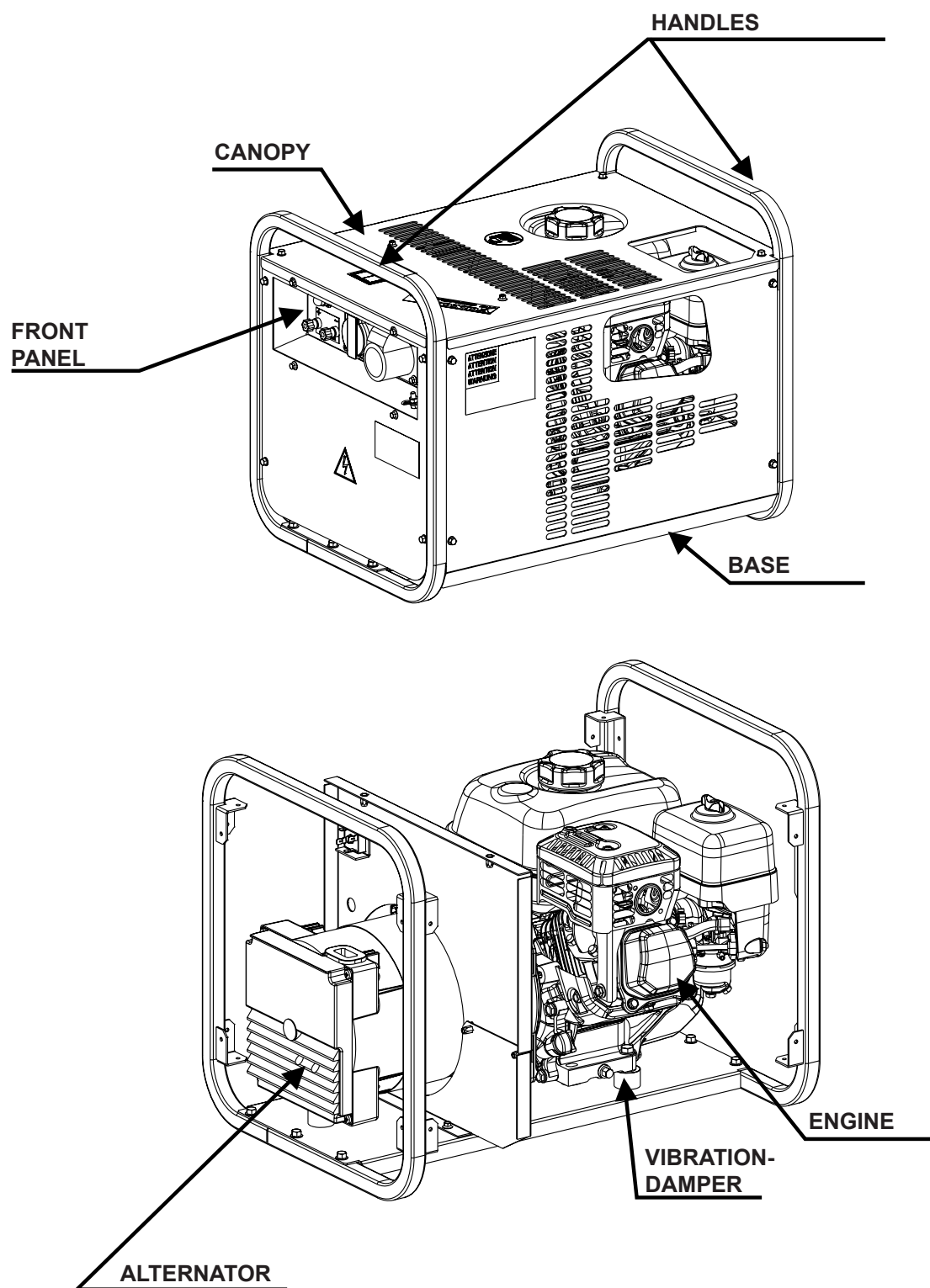
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USE AND MAINTENANCE MANUAL SPARE PARTS CATALOG

The generating set GE 3200 is a unit which transforms the mechanical energy, generated by endothermic engine, into electric energy, through an alternator.

Is meant for industrial and professional use, powered by an endothermic engine; it is composed of various main parts such as: engine, alternator, electric and electronic controls, the fairing or a protective structure. The assembling is made on a steel structure, on which are provided elastic support which must damp the vibrations and also eliminate sounds which would produce noise.





UNI EN ISO 9001 : 2008

ISO 9001:2008 - Cert. 0192

MOSA has certified its quality system according to UNI EN ISO 9001:2008 to ensure a constant, high quality of its products. This certification covers the design, production and servicing of engine driven welders and generating sets.

The certifying institute, ICIM, which is a member of the International Certification Network IQNet, awarded the official approval to MOSA after an examination of its operations at the head office and plant in Cusago (MI), Italy.

This certification is not a point of arrival but a pledge on the part of the entire company to maintain a level of quality of both its products and services which will continue to satisfy the needs of its clients, as well as to improve the transparency and the communications regarding all the company's activities in accordance with the official procedures and in harmony with the MOSA Manual of Quality.

The advantages for MOSA clients are:

- Constant quality of products and services at the high level which the client expects;
- Continuous efforts to improve the products and their performance at competitive conditions;
- Competent support in the solution of problems;
- Information and training in the correct application and use of the products to assure the security of the operator and protect the environment;
- Regular inspections by ICIM to confirm that the requirements of the company's quality system and ISO 9001 are being respected.

All these advantages are guaranteed by the CERTIFICATE OF QUALITY SYSTEM No. 0192 issued by ICIM S.p.A. - Milano (Italy) - www.icim.it

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ATTENTION

This use and maintenance manual is an important part of the machines in question.


The assistance and maintenance personnel must keep said manual at disposal, as well as that for the engine and alternator (if the machine is synchronous) and all other documentation about the machine.

We advise you to pay attention to the pages concerning the security (see page M1.1).



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INFORMATION

Dear Customer,
We wish to thank you for having bought a high quality set.

Our sections for Technical Service and Spare Parts will work at best to help you if it were necessary.

To this purpose we advise you, for all control and overhaul operations, to turn to the nearest authorized Service Centre, where you will obtain a prompt and specialized intervention.

 In case you do not profit on these Services and some parts are replaced, please ask and be sure that are used exclusively original parts; this to guarantee that the performances and the initial safety prescribed by the norms in force are re-established.

 ***The use of non original spare parts will cancel immediately any guarantee and Technical Service obligation.***

NOTES ABOUT THE MANUAL

Before actioning the machine please read this manual attentively. Follow the instructions contained in it, in this way you will avoid inconveniences due to negligence, mistakes or incorrect maintenance. The manual is for qualified personnel, who knows the rules: about safety and health, installation and use of sets movable as well as fixed.

You must remember that, in case you have difficulties for use or installation or others, our Technical Service is always at your disposal for explanations or interventions.

The manual for Use Maintenance and Spare Parts is an integrant part of the product. It must be kept with care during all the life of the product.

In case the machine and/or the set should be yielded to another user, this manual must also given to him.

Do not damage it, do not take parts away, do not tear pages and keep it in places protected from dampness and heat.

You must take into account that some figures contained in it want only to identify the described parts and therefore might not correspond to the machine in your possession.

INFORMATION OF GENERAL TYPE


In the envelope given together with the machine and/or set you will find: the manual for Use Maintenance and Spare Parts, the manual for use of the engine and the tools (if included in the equipment), the guarantee (in the countries where it is prescribed by law).

Our products have been designed for the use of generation for welding, electric and hydraulic system; ANY OTHER DIFFERENT USE NOT INCLUDED IN THE ONE INDICATED, relieves the manufacturer from the risks which could happen or, anyway, from that which was agreed when selling the machine. The manufacturer excludes any responsibility for damages to the machine, to the things or to persons in this case.

Our products are made in conformity with the safety norms in force, for which it is advisable to use all these devices or information so that the use does not bring damage to persons or things.

While working it is advisable to keep to the personal safety norms in force in the countries to which the product is destined (clothing, work tools, etc.).

Do not modify for any motive parts of the machine (fastenings, holes, electric or mechanical devices, others..) if not duly authorized in writing: the responsibility coming from any potential intervention will fall on the executioner as in fact he becomes maker of the machine.






 **Notice:** *this manual does not engage the manufacturer, who keeps the faculty, apart the essential characteristics of the model here described and illustrated, to bring betterments and modifications to parts and accessories, without putting this manual uptodate immediately.*




Any of our product is labelled with CE marking attesting its conformity to applicable directives and also the fulfillment of safety requirements of the product itself; the list of these directives is part of the declaration of conformity included in any machine standard equipment.
Here below the adopted symbol:

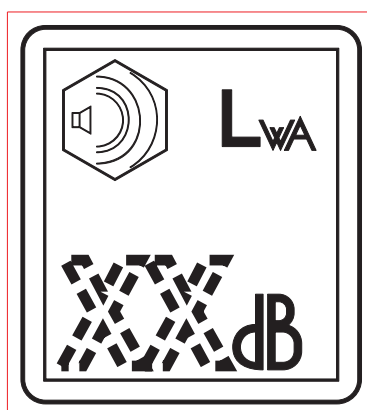


CE marking is clearly readable and unerasable and it can be either part of the data-plate.

| | |
|---|---|
|  Made in UE-ITALY... TYPE SERIAL N° | |
|  | X I ₂ (A) U ₂ (V) |
|  | I ₂ (A) U ₂ (V) |
|  | Hz P.F. kVA V (V) I (A) |
|  | n ₁ RPM n ₂ RPM P _{max} KW I. CL. |

| | |
|---|--|
|  Made in UE-ITALY... TYPE Generating Set ISO 8528 SERIAL N° | |
| KVA | |
| V | |
| I | |
| Hz | P.F. LTP POWER IN ACCORDANCE WITH ISO 8528 |
| RPM | I. CL. IP |
| ALTIT. 100 m | TEMP. 25 °C MASS |

Furthermore, on each model it is shown the noise level value; the symbol used is the following:



The indication is shown in a clear, readable and indeleble way on a sticker.

BCS S.p.A.

Sede legale:
 Via Marradi 1
 20123 Milano - Italia

Stabilimento di Cusago, 20090 (MI) - Italia

V.le Europa 59
 Tel.: +39 02 903521
 Fax: +39 02 90390466



ISO 9001:2000 - Cert. 0192

DICHIARAZIONE DI CONFORMITA'



Déclaration de Conformité – Declaration of Conformity – Konformitätserklärung
 Conformiteitsverklaring – Declaración de Conformidad

BCS S.p.A. dichiara sotto la propria responsabilità che la macchina:
 BCS S.p.A. déclare, sous sa propre responsabilité, que la machine:
 BCS S.p.A. declares, under its own responsibility, that the machine:
 BCS S.p.A. erklärt, daß die Aggregate:
 BCS S.p.A. verklaard, onder haar eigen verantwoordelijkheid, dat de machine:
 BCS S.p.A. declara bajo su responsabilidad que la máquina:

GRUPPO ELETTROGENO DI SALDATURA / WELDING GENERATOR ☐

GRUPPO ELETTROGENO / POWER GENERATOR ☐

Marchio / Brand : MOSA

Modello / Model : _____

Matricola / Serial number : _____

è conforme con quanto previsto dalle Direttive Comunitarie e relative modifiche:
 est en conformité avec ce qui est prévu par les Directives Communautaires et relatives modifications:
 conforms with the Community Directives and related modifications:
 mit den Vorschriften der Gemeinschaft und deren Ergänzungen übereinstimmt:
 in overeenkomst is met de inhoud van gemeenschapsrichtlijnen gerelateerde modificaties:
 cumple con los requisitos de la Directiva Comunitaria y sus anexos:

2006/42/CE - 2006/95/CE - 2004/108/CE

Nome e indirizzo della persona autorizzata a costituire il fascicolo tecnico :
 Nom et adresse de la personne autorisée à composer le Dossier Technique :
 Person authorized to compile the technical file and address :
 Name and Adresse der zur Ausfüllung der technischen Akten ermächtigten Person :
 Persoon bevoegd om het technische document , en bedrijf gegevens in te vullen
 Nombre y dirección de la persona autorizada a componer el expediente técnico :

ing. Benso Marelli - Amministratore Delegato / CEO; V.le Europa 59, 20090 Cusago (MI) - Italy

Cusago,

Ing. Benso Marelli
 Amministratore Delegato
 CEO

| | | | |
|---|-----------------------------------|---|-------------------------|
| <div><div>I</div><div>GB</div><div>F</div></div> | TECHNICAL DATA | GE 3200 SX | M 1.5 REV.1-09/13 |
| Technical data | | GE 3200 SX | |
| GENERATOR | | | |
| *Stand-by single-phase output | 3.1 kVA (2.8 kW) / 230 V / 13.5 A | | |
| *PRP single-phase output | 2.8 kVA (2.5 kW) / 230 V / 12.2 A | | |
| Frequency | 50 Hz | | |
| Cos ϕ | 0.9 | | |
| Battery charger | 12 Vc.c. - 10A | | |
| * Output powers according to ISO 8528-1 | | | |
| ALTERNATOR | | self-excited, self-regulated, brushless | |
| Type | synchronous, single-phase | | |
| Insulating class | H | | |
| ENGINE | | | |
| Mark / Model | HONDA / GX 200 | | |
| Type / Cooling system | Gasoline 4-Stroke / OHV/ Air | | |
| Cylinder / Displacement | 1 / 196 cm³ | | |
| *Stand-by net power | 3.7 kW (5.0 HP) | | |
| *PRP net power | 3.3 kW (4.5 HP) | | |
| Speed | 3000 rpm | | |
| Fuel consumption (75% of PRP) | 1.1 l/h | | |
| Engine oil capacity | 0.6 l | | |
| Starter | Recoil | | |
| * Powers according to SAE J1349 | | | |
| GENERAL SPECIFICATIONS | | | |
| Tank capacity | 3.1 l | | |
| Running time (75% of PRP) | 2.8 h | | |
| Protection | IP 23 | | |
| *Dimensions / max. Lxwxh (mm) | 570x420x450 | | |
| *Weight (dry) | 52 Kg | | |
| Measured acoustic power LwA (pressure LpA) | 95 dB(A) (70 dB(A) @ 7 m) | | |
| Guaranteed acoustic power LwA (pressure LpA) | 96 dB(A) (71 dB(A) @ 7 m) | | |
| * Dimensions and weight are inclusive of all parts. | | | |

OUTPUT

Declared power according to ISO 8528-1 (temperature 25°C, 30% relative humidity, altitude 100 m above sea level).

(*Stand-by) = maximum available power for use at variable loads for a yearly number of hours limited at 500 h. No overload is admitted.

(**Prime power PRP) = maximum available power for use at variable loads for a yearly illimited number of hours. The average power to be taken during a period of 24 h must not be over 80% of the PRP.

It's admitted overload of 10% each hour every 12 h.

In an **approximative** way one reduces: of 1% every 100 m altitude and of 2.5% for every 5°C above 25°C.

ACOUSTIC POWER LEVEL

ATTENTION: The concrete risk due to the machine depends on the conditions in which it is used. Therefore, it is up to the end-user and under his direct responsibility to make a correct evaluation of the same risk and to adopt specific precautions (for instance, adopting a I.P.D. -Individual Protection Device)

Acoustic Noise Level (LWA) - Measure Unit dB(A): it stands for acoustic noise released in a certain delay of time. This is not submitted to the distance of measurement.

Acoustic Pressure (Lp) - Measure Unit dB(A): it measures the pressure originated by sound waves emission. Its value changes in proportion to the distance of measurement.


The here below table shows examples of acoustic pressure (Lp) at different distances from a machine with Acoustic Noise Level (LWA) of 95 dB(A)

Lp a 1 meter = 95 dB(A) - 8 dB(A) = 87 dB(A)

Lp a 4 meters = 95 dB(A) - 20 dB(A) = 75 dB(A)

Lp a 7 meters = 95 dB(A) - 25 dB(A) = 70 dB(A)

Lp a 10 meters = 95 dB(A) - 28 dB(A) = 67 dB(A)

PLEASE NOTE: the symbol  when with acoustic noise values, indicates that the device respects noise emission limits according to 2000/14/CE directive.

SYMBOLS IN THIS MANUAL

- The symbols used in this manual are designed to call your attention to important aspects of the operation of the machine as well as potential hazards and dangers for persons and things.

IMPORTANT ADVICE

- Advice to the User about the safety:

N.B.: The information contained in the manual can be changed without notice. Potential damages caused in relation to the use of these instructions will not be considered because these are only indicative. Remember that the non observance of the indications reported by us might cause damage to persons or things. It is understood, that local dispositions and/or laws must be respected.

WARNING



Situations of danger - no harm to persons or things

Do not use without protective devices provided

Removing or disabling protective devices on the machine is prohibited.

Do not use the machine if it is not in good technical condition

The machine must be in good working order before being used. Defects, especially those which regard the safety of the machine, must be repaired before using the machine.

SAFETY PRECAUTIONS



DANGEROUS

This heading warns of an immediate danger for persons as well for things. Not following the advice can result in serious injury or death.



WARNING

This heading warns of situations which could result in injury for persons or damage to things.



CAUTION

To this advice can appear a danger for persons as well as for things, for which can appear situations bringing material damage to things.



IMPORTANT



NOTE



ATTENTION

These headings refer to information which will assist you in the correct use of the machine and/or accessories.

SYMBOLS



STOP - Read absolutely and be duly attentive



Read and pay due attention



GENERAL ADVICE - If the advice is not respected damage can happen to persons or things.



HIGH VOLTAGE - Attention High Voltage. There can be parts in voltage, dangerous to touch. The non observance of the advice implies life danger.



FIRE - Danger of flame or fire. If the advice is not respected fires can happen.



HEAT - Hot surfaces. If the advice is not respected burns or damage to things can be caused.



EXPLOSION - Explosive material or danger of explosion. in general. If the advice is not respected there can be explosions.



WATER - Danger of shortcircuit. If the advice is not respected fires or damage to persons can be caused.



SMOKING - The cigarette can cause fire or explosion. If the advice is not respected fires or explosions can be caused.



ACIDS - Danger of corrosion. If the advice is not respected the acids can cause corrosions with damage to persons or things.



WRENCH - Use of the tools. If the advice is not respected damage can be caused to things and even to persons.



PRESSION - Danger of burns caused by the expulsion of hot liquids under pressure.



ACCES FORBIDDEN to non authorizad people.

PROHIBITIONS No harm for persons

Use only with safety clothing -



It is compulsory to use the personal protection means given in equipment.

Use only with safety clothing -



It is compulsory to use the personal protection means given in equipment.

Use only with safety protections -



It is a must to use protection means suitable for the different welding works.

Use with only safety material -



It is prohibited to use water to quench fires on the electric machines.

Use only with non inserted voltage -



It is prohibited to make interventions before having disinserted the voltage.

No smoking -



It is prohibited to smoke while filling the tank with fuel.

No welding -



It is forbidden to weld in rooms containing explosive gases.

ADVICE No harm for persons and things

Use only with safety tools, adapted to the specific use -

It is advisable to use tools adapted to the various maintenance works.

Use only with safety protections, specifically suitable



It is advisable to use protections suitable for the different welding works.

Use only with safety protections -



It is advisable to use protections suitable for the different daily checking works.

Use only with safety protections -




It is advisable to use all protections while shifting the machine.

Use only with safety protections -




It is advisable to use protections suitable for the different daily checking works.and/or of maintenance.

 The installation and the general advice concerning the operations, are finalized to the correct use of the machine, in the place where it is used as generator group and/or welder.


| | | | |
|--------|---|----------------|--|
| ENGINE | Stop engine when fueling | CHECKING BOARD | Do not touch electric devices if you are barefoot or with wet clothes. |
| | Do not smoke, avoid flames, sparks or electric tools when fueling. | | |
| | Unscrew the cap slowly to let out the fuel vapours. | | Always keep off leaning surfaces during work operations. |
| | Slowly unscrew the cooling liquid tap if the liquid must be topped up. | | |
| | The vapor and the heated cooling liquid under pressure can burn face, eyes, skin. | | Static electricity can damage the parts on the circuit. |
| | Do not fill tank completely. | | |
| | Wipe up spilled fuel before starting engine. | | An electric shock can kill |
| | Shut off fuel of tank when moving machine (where it is assembled). | | |
| | Avoid spilling fuel on hot engine. | | |
| | Sparks may cause the explosion of battery vapours | | |






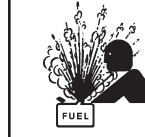

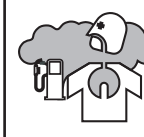


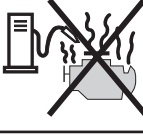
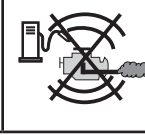

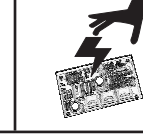

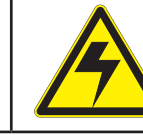

 **FIRST AID.** In case the operator should be sprayed by accident, from corrosive liquids a/o hot toxic gas or whatever event which may cause serious injuries or death, predispose the first aid in accordance with the ruling labour accident standards or of local instructions.

| | |
|-------------------------------|--|
| Skin contact | Wash with water and soap |
| Eyes contact | Irrigate with plenty of water, if the irritation persists contact a specialist |
| Ingestion | Do not induce vomit as to avoid the intake of vomit into the lungs, send for a doctor |
| Suction of liquids from lungs | If you suppose that vomit has entered the lungs (as in case of spontaneous vomit) take the subject to the hospital with the utmost urgency |
| Inhalation | In case of exposure to high concentration of vapours take immediately to a non polluted zone the person involved |



 **FIRE PREVENTION.** In case the working zone, for whatsoever cause goes on fire with flames liable to cause severe wounds or death, follow the first aid as described by the ruling norms or local ones.

| EXTINCTION MEANS | |
|-----------------------|--|
| Appropriated | Carbonate anhydride (or carbon dioxide) powder, foam, nebulized water |
| Not to be used | Avoid the use of water jets |
| Other indications | Cover eventual shedding not on fire with foam or sand, use water jets to cool off the surfaces close to the fire |
| Particular protection | Wear an autorespiratory mask when heavy smoke is present |
| Useful warnings | Avoid, by appropriate means to have oil sprays over metallic hot surfaces or over electric contacts (switches, plugs, etc.). In case of oil sprinkling from pressure circuits, keep in mind that the inflammability point is very low. |

| WARNING | | | | | CAUTION | | DANGEROUS |
|---|---|---|---|---|--|---|---|
|  |  |  |  |  |  |  | |
|  |  |  |  |  |  |  |  |

| | |
|---|---|
|  | THE MACHINE <u>MUST NOT BE USED</u> IN AREAS WITH EXPLOSIVE ATMOSPHERE |
|---|---|



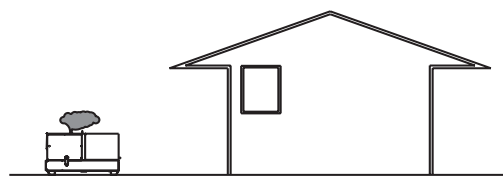
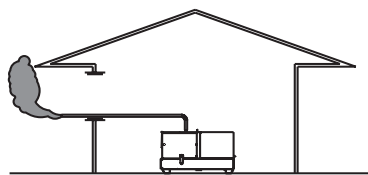
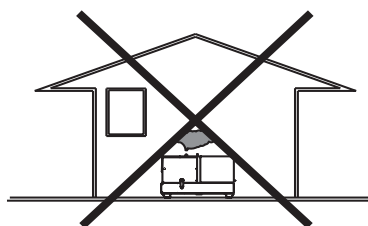
INSTALLATION AND ADVICE BEFORE USE

GASOLINE ENGINES

- Use in open space, air swept or vent exhaust gases, which contain the deadly carbone oxyde, far from the work area.

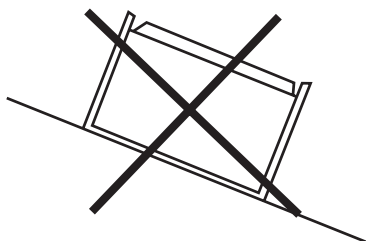
DIESEL ENGINES

- Use in open space, air swept or vent exhaust gases far from the work area.

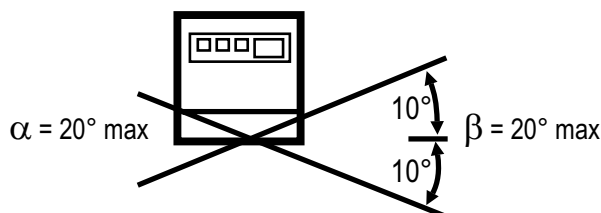
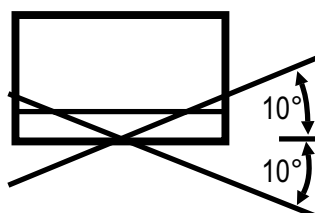


POSITION

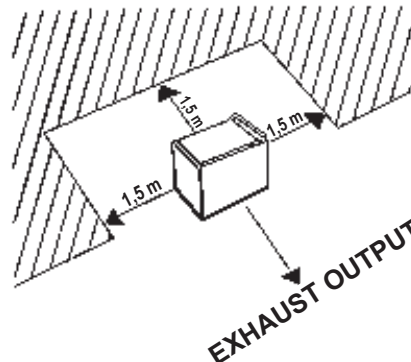
Place the machine on a level surface at a distance of at least 1,5 m from buildings or other plants.



Maximum leaning of the machine (in case of dislevel)



Check that the air gets changed completely and the hot air sent out does not come back inside the set so as to cause a dangerous increase of the temperature.



- Make sure that the machine does not move during the work: **block** it possibly with tools and/or devices made to this purpose.

MOVES OF THE MACHINE

- At any move check that the engine is **off**, that there are no connections with cables which impede the moves.

PLACE OF THE MACHINE

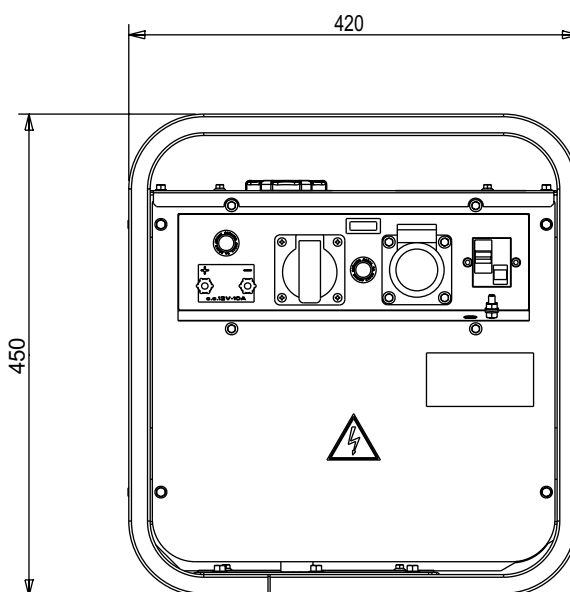
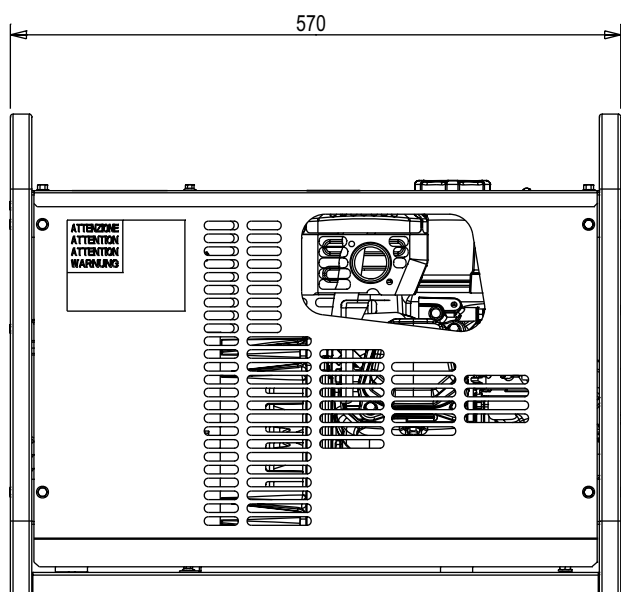
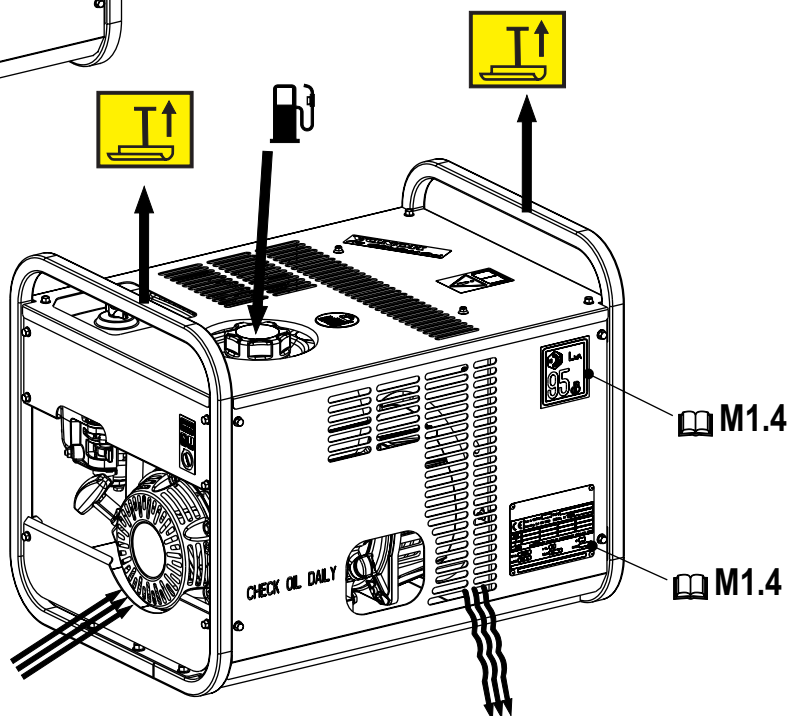
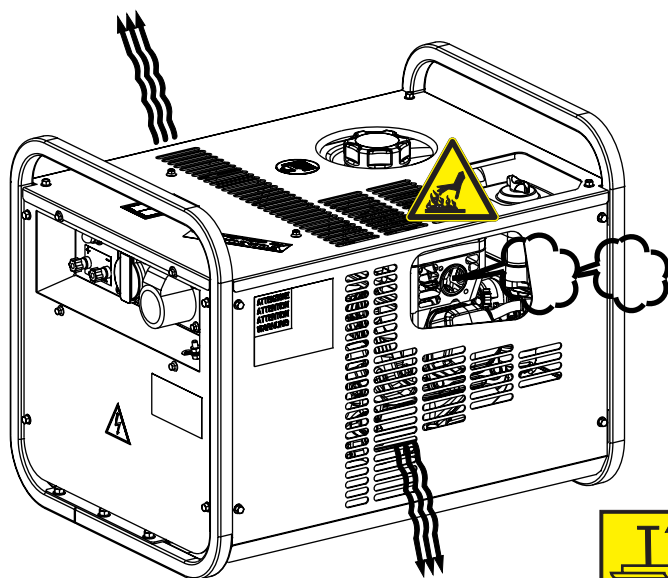


ATTENTION



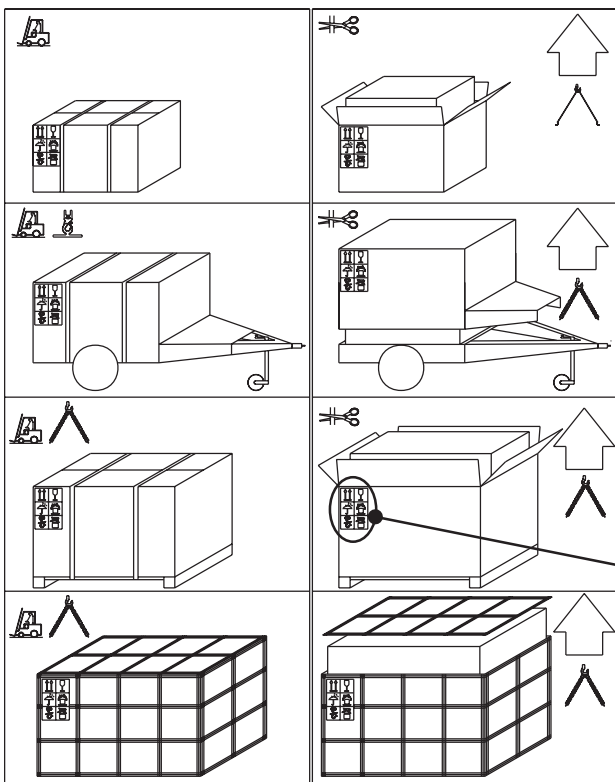
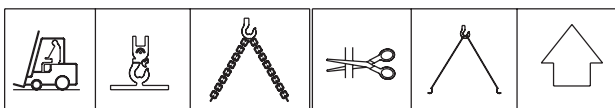
For a safer use from the operator **DO NOT** fit the machine in locations with high risk of flood.

Please do not use the machine in weather conditions which are beyond IP protection shown both in the data plate and on page named "technical data" in this same manual.



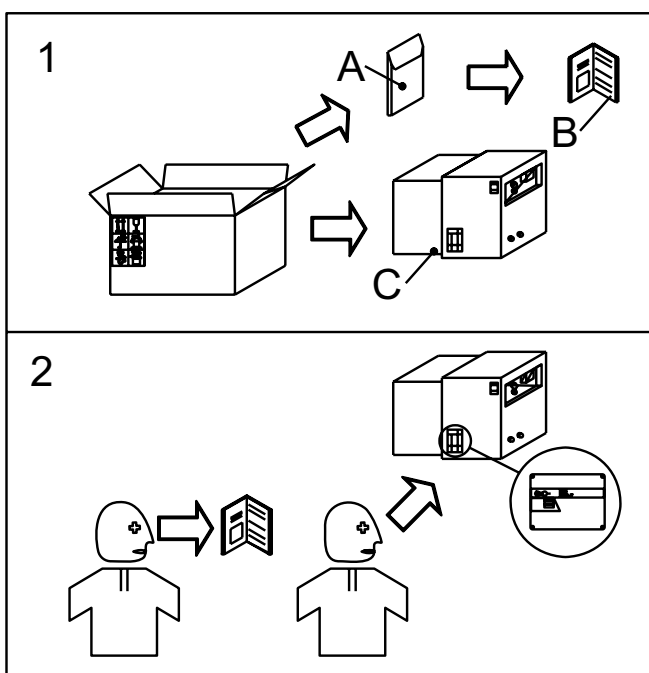
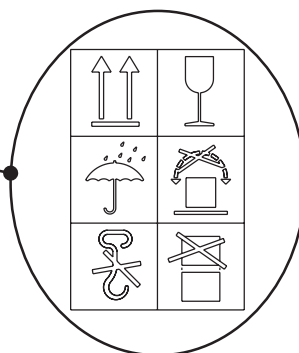


NOTE



Be sure that the lifting devices are: correctly mounted, adequate for the weight of the machine with its packaging, and conforms to local rules and regulations. When receiving the goods make sure that the product has not suffered damage during the transport, that there has not been rough handling or taking away of parts contained inside the packing or in the set. In case you find damages, rough handling or absence of parts (envelopes, manuals, etc.), we advise you to inform immediately our Technical Service.

For eliminating the packing materials, the User must keep to the norms in force in his country.



- 1) Take the machine (C) out of the shipment packing. Take out of the envelope (A) the user's manual (B).
- 2) Read: the user's manual (B), the plates fixed on the machine, the data plate.





NOTE

Transportation must always take place with the engine off, electrical cables and starting battery disconnected and fuel tank empty.

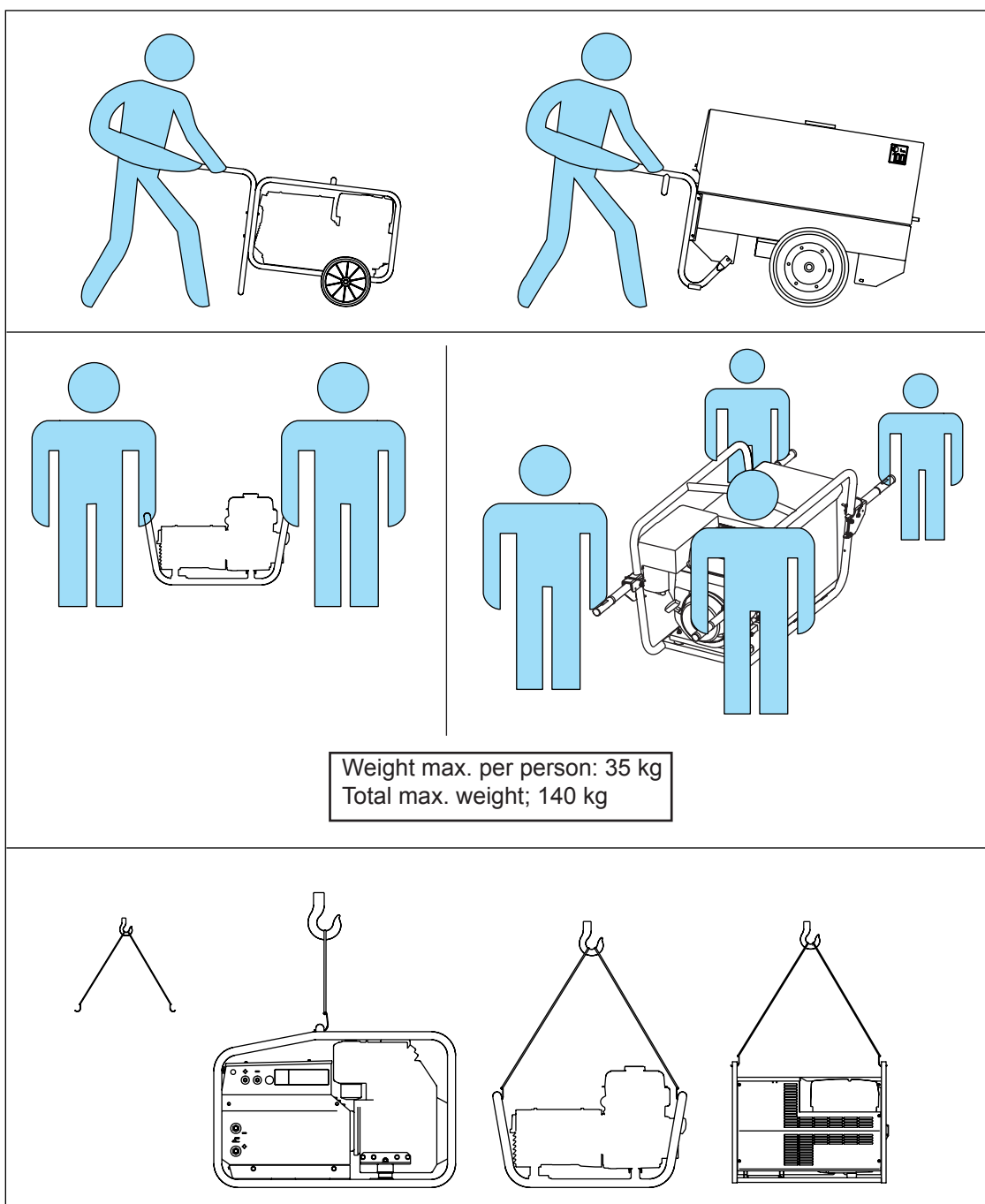
Be sure that the lifting devices are: correctly mounted, adequate for the weight of the machine with its packaging, and conform to local rules and regulations.

Only authorized persons involved in the transport of the machine should be in the area of movement.

DO NOT LOAD OTHER PARTS WHICH CAN MODIFY WEIGHT AND BARICENTER POSITION.

IT IS STRICTLY FORBIDDEN TO DRAG THE MACHINE MANUALLY OR TOW IT BY ANY VEHICLE (model with no CTM accessory).

If you did not keep to the instructions, you could damage the structure of the machine.





BATTERY WITHOUT MAINTENANCE

(where it is assembled)

The included battery must be activated.
To activate it (fill the included acid) please follow the instructions shown on the manual attached to the battery.

When battery is activated, **DON'T** add any other liquid.



LUBRICANT

Please refer to the motor operating manual for the recommended viscosity.

RECOMMENDED OIL

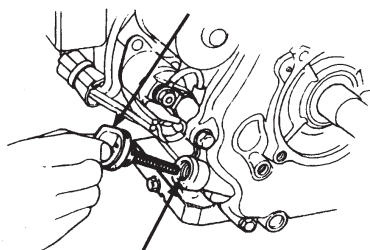
MOSA recommends selecting **AGIP** engine oil.
Refer to the label on the motor for the recommended products.

| PRODOTTI RACCOMANDATI RECOMMENDED PRODUCTS | |
|---|---|
| AGIP SIGMA TURBO PLUS 15W/40 API CG4 - ACEA E3 | OLIO MOTORE DIESEL DIESEL ENGINE OIL |
| AGIP SUPERMOTOROIL 20W/50 API CC-SF | OLIO MOTORE BENZINA GASOLINE ENGINE OIL |
| AGIP ANTIFREEZE EXTRA INIBITE ETHYLENE GLYCOL (50% + 50% + H ₂ O) | CIRCUITO DI RAFFREDDAMENTO COOLING CIRCUIT (CUNA NC 956-16 ED 97) |

To check the oil level:

1. Remove the oil-fill tap (24) and clean the dip-stick (23).
2. Insert the dip-stick into the oil filler without screwing it in.
3. If the oil level is low, fill with recommended oil up to the top of the oil filler

Oil fill tap / dip-stick



Upper oil level

MOTORS WITH OIL ALERT DEVICE

The "Oil Alert" system is designed to prevent damage to the motor due to an insufficient quantity of oil in the cup. This system automatically shuts off the motor before the oil level falls below the safety limit. If the motor does not start up again after shutting itself off, check the oil level.



AIR FILTER

Check that the dry air filter is correctly installed and that there are no leaks around the filter which could lead to infiltrations of non-filtered air to the inside of the motor.



FUEL



WARNING



Gasoline is highly flammable. Refuel with motor shut off in a flat surfaced well-ventilated area. Do not refuel in the presence of flames. Avoid spilling fuel.



Any eventual spilled fuel and fumes are flammable. Clean any dispersions of fuel before starting up the motor.

Fill the tank with gasoline for automobiles (preferably lead free or with low lead content in order to reduce deposits in the combustion chamber to a minimum).

For further details on the type of gasoline to use, see the motor operating manual supplied.

Do not fill the tank completely; leave a space of approx. 10 mm between the fuel level and the wall of the tank to allow for expansion.



GROUND CONNECTION

Proper grounding is obligatory for all models featuring a ground fault interruptor [G.F.I.] switch. This safety device functions correctly only if the machine is grounded.

Use a good quality grounding cable and connect it to the machine's ground terminal (12). Abide by local norms and/or laws concerning safety and electrical installations.

When these operations have been carried out, the unit can be started up for operation.





check daily

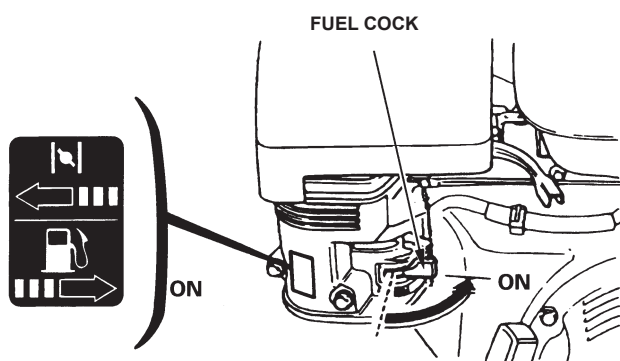


NOTE

Do not alter the primary conditions of regulation and do not touch the sealed parts.

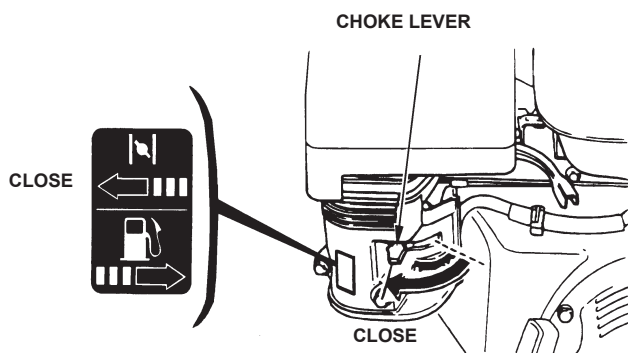
STARTING

1. Turn the fuel cock (87) to ON.

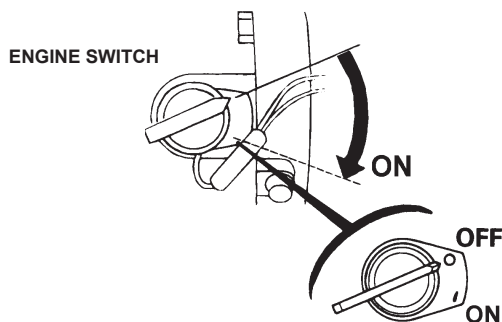


2. Switch the choke control (66) to CLOSE

N.B.: Do not use the air valve if the motor is hot or the air temperature is too high.



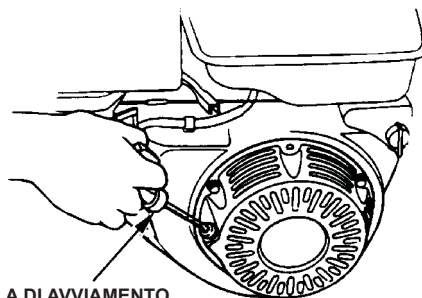
3. Turn the engine switch (28) to the ON position



4. Lightly pull the start-up knob (73) until meeting resistance, then pull decisively.

ATTENTION:

Allow the start-up knob to re-enter slowly, avoiding having it knock against the motor and thereby damaging the start-up system.



5. Once the engine is started, with the starter off, let it turn for a few minutes before drawing the load.

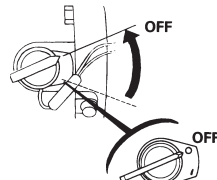
ENGINE STOPPING

For shut down the motor in case of emergency, turn the motor switch (28) to OFF.

To stop the motor under normal conditions, proceed as follows:

- interrupt the power source, switching off all tools connected. If a tool does not feature a power switch, lower the G.F.I. switch lever (D);
- allow the motor to run without any load for a few minutes;

ENGINE SWITCH



FUEL VALVE



- Turn the engine switch (28) to OFF.
- Turn the fuel valve to the OFF position.

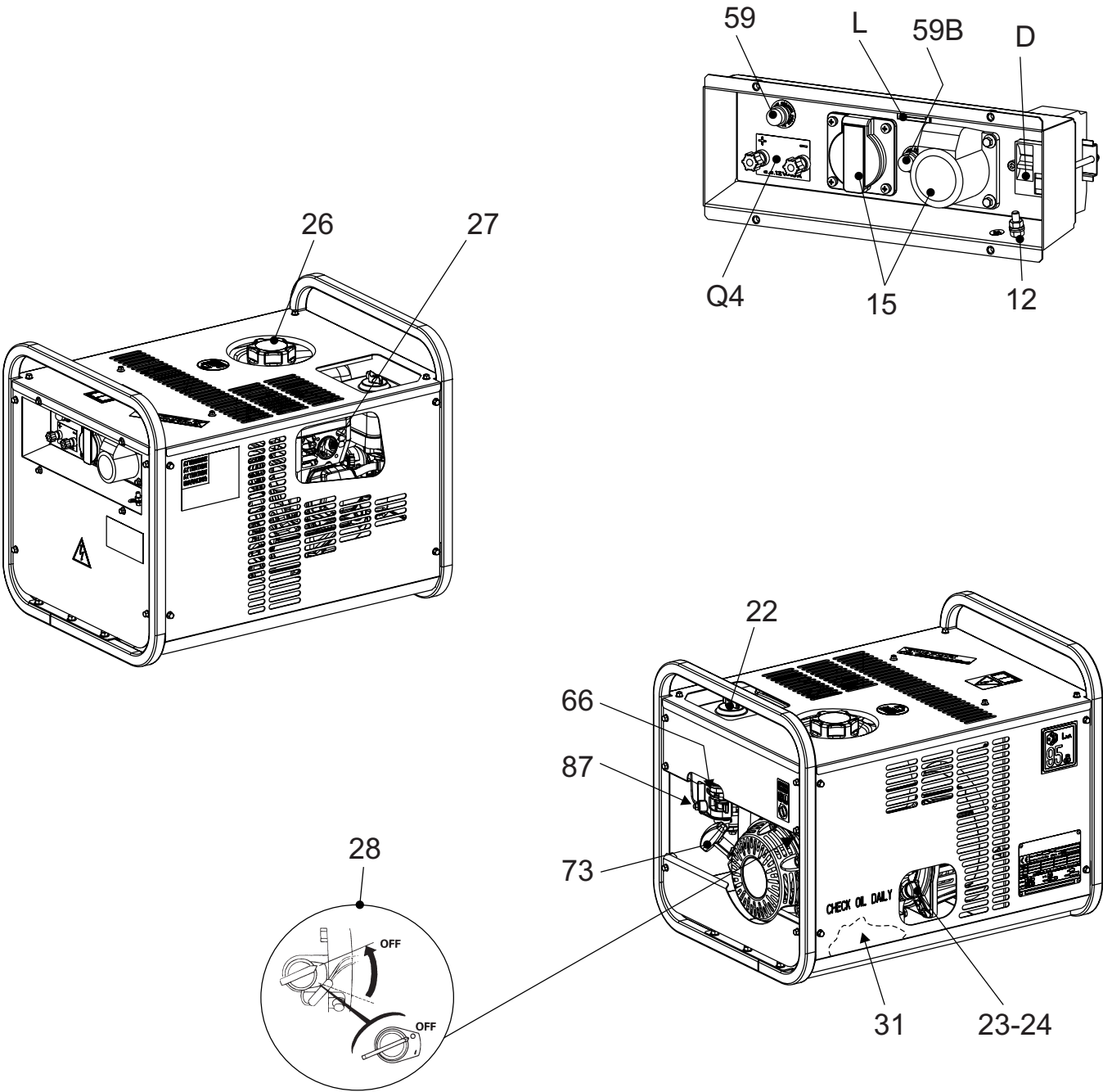


CAUTION

RUNNING-IN

During the first 50 hours of operation, do not use more than 60% of the maximum output power of the unit and check the oil level frequently, in any case please stick to the rules given in the engine use manual.





| Pos | Descrizione | Description | Description | Descripción |
|-----|-----------------------------------|--------------------------------|-----------------------------------|---|
| 12 | Presa di messa a terra | Earth terminal | Prise de mise à terre | Toma de puesta a tierra |
| 15 | Presa di corrente in c.a. | A.C. socket | Prises de courant en c.a. | Toma de corriente en c.a |
| 22 | Filtro aria motore | Engine air filter | Filtre air moteur | Filtro aire motor |
| 23 | Asta livello olio motore | Oil level dipstick | Jauge niveau huile moteur | Aguja nivel aceite motor |
| 24 | Tappo caricamento olio motore | Engine oil reservoir cap | Bouchon remplissage huile moteur | Tapón llenado aceite motor |
| 26 | Tappo serbatoio | Fuel tank cap | Bouchon réservoir | Tapón depósito |
| 27 | Silenziatore di scarico | Muffler | Silencieux d'échappement | Silenciador de descarga |
| 28 | Comando Stop | Stop control | Commande stop | Mando stop |
| 31 | Tappo scarico olio motore | Oil drain tap | Bouchon décharge huile moteur | Tapón vaciado aceite motor |
| 59 | Protezione termica c.b. | Battery charger thermal switch | Protection thermique c.b. | Protección térmica c.b.. |
| 59B | Protezione termica corrente aux | Aux current thermal switch | Protection thermique courant aux. | Protección térmica corr. aux |
| 66 | Comando CHOKE | CHOKE button | Bouton CHOKE | Pulsador CHOKE |
| 73 | Comando manuale avviamento | Starting push button | Commande manuelle démarrage | Mando manual arranque |
| 87 | Rubinetto carburante | Fuel cock | Robinet de l'essence | Grifo de combustible |
| D | Interruttore differenziale (30mA) | G.F.I. | Interrupteur différentiel | Interruptor diferencial (30 mA) |
| L | Spia luminosa corrente alta | A.C. output indicator | Voyants tension alternative | Indicadores luminosos corriente alterna |
| Q4 | Prese carica batteria | Battery charge sockets | Prises charge batterie | Toma carga batería |



DANGEROUS

It is strictly forbidden to connect the group to the public mains a/o to another source of electric power.



Access forbidden to area adjacent to electricity-generating group for all non-authorized personnel.

The electricity-generating groups are to be considered electrical energy producing stations.

The dangers of electrical energy must be considered together with those related to the presence of chemical substances (fuels, oils, etc.), rotating parts and waste products (fumes, discharge gases, heat, etc.).

GENERATION IN AC (ALTERNATING CURRENT)

Make certain of the efficiency of the ground connection (12).

- See page M25.

230V version

Position the G.F.I. switch to ON.

☞ Tension is now immediately available to the A.C sockets.


Check that the GREEN lamp over AUX socket is ON (where present).

Connect the electric devices to be powered to the AC sockets, using suitable plugs and cables in prime condition.

☞ Verify that the electrical characteristics of the tension/frequency/power device are compatible with those of the generator.

Low frequency and/or voltage can damage some electrical devices irreparably.

Verify that the ground terminal for the plug is properly grounded and connected to the electrical appliance/tool to be powered.

☞ For double insulation devices with the symbol , the plug's ground terminal must not be grounded.

THERMOPROTECTION

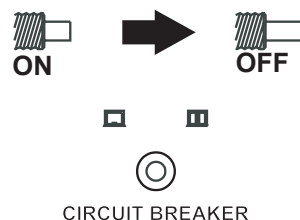
The generator is protected against overloads by the thermoprotection (59B).

When current is exceeded, the protection feature intervenes to cut off tension to the AC sockets.

☞ Notes: the intervention of the thermoprotection feature is not instantaneous, but reacts according to an overcurrent/time characteristic, whereby the greater the overcurrent the quicker the intervention.

In case of intervention by the protection feature, verify that the total power for the loads connected

does not exceed the declared rating; decrease if necessary. Disconnect the loads and wait a few minutes to allow the thermo-protection to cool down.



Reset the protection feature by pressing the central pole, then connect the load once again.

If the protection should intervene once more, replace it with another one with matching intervention current specifications and/or contact the Service Department.

☞ Note: do not forcibly press the central pole on the thermoprotection to inhibit its intervention, as this could **damage** the unit's alternator irreparably.

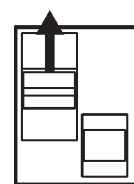
GROUND FAULT INTERRUPTOR SWITCH

The high-sensitivity ground fault interruptor switch [G.F.I.] (30mA) (D), guarantees protection against indirect contacts due to faulty ground currents .

When the G.F.I. switch picks up a faulty ground current that is higher than 30mA, it intervenes by immediately cutting off tension to the AC sockets.

In case of intervention by this protection feature, reset the G.F.I. switch, bringing the lever to the ON position.

In case of another intervention, verify that no faulty tools are connected, or replace the G.F.I. switch with another of matching specifications and/or contact the Service Department.



☞ Notes: verify the operation of the G.F.I. switch at least once a month by pressing the TEST button. The generator must be running and the differential lever in the ON position.



USE AS A GENERATING SET

GE 3200 SX
GE 4500 HBS / GE 4500 HBS-AVR
GE 4500 SX / SXE-EAS / SXE-AVR EAS

M
37.1
REV.0-12/11

GENERATION IN C.C. (Continuous Current)

Maximum power in c.c.:

$P = 120W$ - $V = 12V$ AC

$I = 10A$

Generation in c.c. is mainly used to recharge lead batteries.

- Verify that the battery to be charged is not a dry battery, and that it is 12V c.c.
- Position the generator and battery on a flat surface and distant from one another.
- Connect the battery recharge cables one at a time, avoiding accidental contacts between them.

☞ Note: use cables with a minimum section of 6 mm².

- Start the motor.
- Once recharging is complete, proceed in opposite sequence, switching off the motor and disconnecting the cables, etc.

THERMOPROTECTION

The 12V c.c. output is protected against overloads by the thermoprotection device (59).

When current is exceeded, the protection feature intervenes to cut off tension to the c.c. terminals (Q4).

☞ Notes: the intervention of the thermoprotection feature is not instantaneous, but reacts according to an overcurrent/time characteristic, whereby the greater the overcurrent the quicker the intervention.

In case of intervention by the protection feature, verify that:

- the c.c. terminal /battery connections respect the polarities;
- the battery is not faulty or has a short-circuited element;
- the battery level is not too low, with the consequent recharge current being too high.

Eliminate the cause and wait a few minutes to allow the thermoprotection to cool down.

Reset the protection feature by pressing the central pole. If the protection should intervene once more, replace it with another one with matching intervention current specifications and/or contact the Service Department.



ATTENTION



The batteries produce explosive gas; sparks, flames, cigarettes, are to be kept far from them. Make sure that when they are being recharged there is adequate ventilation around the battery.

The battery contains sulphuric acid (electrolyte). The contact with eyes and skin may cause severe lesions. Wear protective garments and eye protections.

If the electrolyte comes in contact with the skin, wash with plenty of water.

If the electrolyte comes in contact with the skin, wash with plenty of water. If it comes in contact with the eyes wash with fluent water for at least 15 minutes and rush for a doctor.




The electrolyte is poisonous.

If swallowed drink plenty of water or milk, then milk of magnesia or vegetable oil and call for a doctor. Keep away from children.



| | | | |
|--------------|-------------------------|---|--|
| I GB F | Trouble shooting | GE 3200 SX GE 4500 HBS GE 4500 HBS-AVR | M 40.2 REV.1-12/11 |
|--------------|-------------------------|---|--|

| <i>Problem</i> | <i>Possible cause</i> | <i>Solution</i> |
|--|--|--|
| The motor does not start up, or starts up and then stops immediately | 1) Engine switch a in the wrong positions 2) Lack of or insufficient oil in the motor 3) Faulty motor stopping device (oil-alert) 4) Lack of fuel in tank or fuel tap closed 5) Dirty or faulty spark plug 6) Cold motor 7) Other causes | 1) Verify start-up procedure in the Operating Manual 2) Refill or top off 3) Replace 4) Refill the tank. Open the fuel tap 5) Clean or check and eventually replace 6) Hold the CHOKE control, after start-up, for a longer period of time 7) Consult the motor Operating Manual. |
| Lack of tension to the AC sockets | 1) G.F.I. switch in the OFF position 2) Intervention of G.F.I. switch due to faulty ground current 3) Faulty G.F.I. switch 4) Intervention of circuit breaker (thermo-protection) 5) Faulty thermoprotection 6) Faulty alternator 7) AVR fuse blown 8) Faulty AVR | 1) Position to ON 2) Disconnect load from AC sockets. Position the G.F.I. switch to ON; if the switch intervenes once again, the fault is on board the machine. Contrarily, the cause of the G.F.I. switch intervention is due to a faulty ground current in the load or connection cable. Find and remove the fault. 3) Replace 4) Check total power supplied by generator; if greater than the power reported on the specification nameplate, decrease the load 5) Replace 6) Check rotating diode windings, alternator excitation capacitor. See specific alternator manual. 7) Check and replace 8) Check and replace |
| (Only AVR Vers.) | | |
| No-load output voltage too low or too high | 1) Incorrect motor speed 2) Faulty alternator | 1) Set the motor's no-load speed 2) Check rotating diode windings, alternator excitation capacitor. See specific alternator manual. |
| (Only AVR Vers.) | 3) AVR out of calibration or fault | 3) Adjust VOLT potentiometer of the AVR replace |
| No-load voltage OK, too low with load | 1) Faulty alternator 2) Overload 3) Number of motor rpm too low | 1) Replace rotating diodes 2) Check total load and eventually decrease 3) Check the fuel supply circuit. See Motor Operating manual. |
| (Only AVR Vers.) | 4) Faulty AVR | 4) Check and replace |
| Lack of tension to the c.c. terminals | 1) Thermoprotection intervention 2) Faulty thermoprotection 3) Faulty diode bridge rectifier 4) Faulty alternator winding | 1) Check the load current and eventually decrease it. 2) Replace 3) Replace 4) Replace |

|  WARNING | | |
|--|---|---|
|  | <ul style="list-style-type: none"> Have qualified personnel do maintenance and troubleshooting work. Stop the engine before doing any work inside the machine. If for any reason the machine must be operated while working inside, pay attention moving parts, hot parts (exhaust manifold and muffler, etc.) electrical parts which may be unprotected when the machine is open. Remove guards only when necessary to perform maintenance, and replace them when the maintenance requiring their removal is complete. Use suitable tools and clothes. Do not modify the components if not authorized. <p>- See pag. M1.1 -</p> |  |
| MOVING PARTS can injure | | HOT surface can hurt you |

NOTE

By maintenance at care of the utilizer we intend all the operatios concerning the verification of mechanical parts, electrical parts and of the fluids subject to use or consumption during the normal operation of the machine.



For what concerns the fluids we must consider as maintenance even the periodical change and or the refills eventually necessary.

Maintenance operations also include machine cleaning operations when carried out on a periodic basis outside of the normal work cycle.

The repairs **cannot be considered** among the maintenance activities, i.e. the replacement of parts subject to occasional damages and the replacement of electric and mechanic components consumed in normal use, by the Assistance Authorized Center as well as by manufacturer.

The replacement of tires (for machines equipped with trolleys) must be considered as repair since it is not delivered as standard equipment any lifting system.

The periodic maintenance should be performed according to the schedule shown in the engine manual. An optional hour counter (M) is available to simplify the determination of the working hours.

|  IMPORTANT | |
|--|--|
|  | <p>In the maintenance operations avoid that polluting substances, liquids, exhausted oils, etc. bring damage to people or things or can cause negative effects to surroindings, health or safety respecting completely the laws and/or dispositions in force in the place.</p> |

ENGINE and ALTERNATOR

PLEASE REFER TO THE SPECIFIC MANUALS PROVIDED.

Every engine and alternator manufacturer has



maintenance intervals and specific checks for each model: it is necessary to consult the specific engine or alternator USER AND MAINTENANCE manual.

VENTILATION

Make certain there are no obstructions (rags, leaves or other) in the air inlet and outlet openings on the machine, alternator and motor.

ELECTRICAL PANELS

Check condition of cables and connections daily. Clean periodically using a vacuum cleaner, **DO NOT USE COMPRESSED AIR.**

DECALS AND LABELS

*All warning and decals should be checked once a year and **replaced** if missing or unreadable.*

STRENUOUS OPERATING CONDITIONS


Under extreme operating conditions (frequent stops and starts, dusty environment, cold weather, extended periods of no load operation, fuel with over 0.5% sulphur content) do maintenance more frequently.

BATTERY WITHOUT MAINTENANCE DO NOT OPEN THE BATTERY


The battery is charged automatically from the battery charger circuit supplied with the engine.

Check the state of the battery from the colour of the warning light which is in the upper part.

- Green colour: battery OK
- Black colour: battery to be recharged
- White colour: battery to be replaced

|  NOTE |
|---|
| <p>THE ENGINE PROTECTION NOT WORK WHEN THE OIL IS OF LOW QUALITY BECAUSE NOT CHARGED REGULARLY AT INTERVALS AS PRESCRIBED IN THE OWNER'S ENGINE MANUAL.</p> |

In case the machine should not be used for more than 30 days, make sure that the room in which it is stored presents a suitable shelter from heat sources, weather changes or anything which can cause rust, corrosion or damages to the machine.

 Have **qualified** personnel prepare the machine for storage.

GASOLINE ENGINE

Start the engine: It will run until it stops due to the lack of fuel.

Drain the oil from the engine sump and fill it with new oil (see page M25).

Pour about 10 cc of oil into the spark plug hole and screw the spark plug, after having rotated the crankshaft several times.

Rotate the crankshaft slowly until you feel a certain compression, then leave it.

In case the battery, for the electric start, is assembled, disconnect it.

Clean the covers and all the other parts of the machine carefully.

Protect the machine with a plastic hood and store it in a dry place.

DIESEL ENGINE

For short periods of time it is advisable, about every 10 days, to make the machine work with load for 15-30 minutes, for a correct distribution of the lubricant, to recharge the battery and to prevent any possible blocking of the injection system.

For long periods of inactivity, turn to the after sales service of the engine manufacturer.

Clean the covers and all the other parts of the machine carefully.

Protect the machine with a plastic hood and store it in a dry place.

In case of necessity for first aid and of fire prevention, see page. M2.5.



IMPORTANT



In the storage operations avoid that polluting substances, liquids, exhausted oils, etc. bring damage to people or things or can cause negative effects to surroundings, health or safety respecting completely the laws and/or dispositions in force in the place.

Have **qualified** personnel disassemble the machine and dispose of the parts, including the oil, fuel, etc., in a correct manner when it is to be taken out of service.

In case of necessity for first aid and fire prevention, see page M2.5.

As cust off we intend all operations to be made, at utilizer's care, at the end of the use of the machine. This comprises the dismantling of the machine, the subdivision of the several components for a further reutilization or for getting rid of them, the eventual packing and transportation of the eliminated parts up to their delivery to the store, or to the bureau encharged to the cust off or to the storage office, etc.

The several operations concerning the cust off, involve the manipulation of fluids potentially dangerous such as: lubricating oil and battery electrolyte.

The dismantling of metallic parts liable to cause injuries or wounds, must be made wearing heavy gloves and using suitable tools.

The getting rid of the various components of the machine must be made accordingly to rules in force of law a/o local rules.

Particular attention must be paid when getting rid of:

lubricating oils, battery electrolyte, and inflammable liquids such as fuel, cooling liquid.

The machine user is responsible for the observance of the norms concerning the environment conditions with regard to the elimination of the machine being cust off and of all its components.

In case the machine should be cust off without any previous disassembly it is however compulsory to remove:

- tank fuel
- engine lubricating oil
- cooling liquid from the engine
- battery

NOTE: BCS is involved with custing off the machine **only** for the second hand ones, when not reparable. This, of course, after authorization.



IMPORTANT



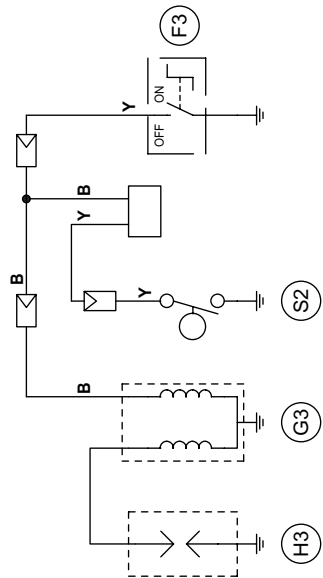
In the cust-off operations avoid that polluting substances, liquids, exhausted oils, etc. bring damage to people or things or can cause negative effects to surroundings, health or safety respecting completely the laws and/or dispositions in force in the place.



| | | | | | |
|----|--|----|---------------------------------------|----|---|
| A | : Alternator | F3 | : Stop push-button | L6 | : Choke button |
| B | : Wire connection unit | G3 | : Ignition coil | M6 | : Switch CC/CV |
| C | : Capacitor | H3 | : Spark plug | N6 | : Connector – wire feeder |
| D | : G.F.I. | I3 | : Range switch | O6 | : 420V/110V 3-phase transformer |
| E | : Welding PCB transformer | L3 | : Oil shut-down button | P6 | : Switch IDLE/RUN |
| F | : Fuse | M3 | : Battery charge diode | Q6 | : Hz/V/A analogic instrument |
| G | : 400V 3-phase socket | N3 | : Relay | R6 | : EMC filter |
| H | : 230V 1phase socket | O3 | : Resistor | S6 | : Wire feeder supply switch |
| I | : 110V 1-phase socket | P3 | : Sparkler reactor | T6 | : Wire feeder socket |
| L | : Socket warning light | Q3 | : Output power unit | U6 | : DSP chopper PCB |
| M | : Hour-counter | R3 | : Electric siren | V6 | : Power chopper supply PCB |
| N | : Voltmeter | S3 | : E.P.4 engine protection | Z6 | : Switch and leds PCB |
| P | : Welding arc regulator | T3 | : Engine control PCB | W6 | : Hall sensor |
| Q | : 230V 3-phase socket | U3 | : R.P.M. electronic regulator | X6 | : Water heater indicator |
| R | : Welding control PCB | V3 | : PTO HI control PCB | Y6 | : Battery charge indicator |
| S | : Welding current ammeter | Z3 | : PTO HI 20 l/min push-button | A7 | : Transfer pump selector AUT-0-MAN |
| T | : Welding current regulator | W3 | : PTO HI 30 l/min push-button | B7 | : Fuel transfer pump |
| U | : Current transformer | X3 | : PTO HI reset push-button | C7 | : "GECO" generating set test |
| V | : Welding voltage voltmeter | Y3 | : PTO HI 20 l/min indicator | D7 | : Flooting with level switches |
| Z | : Welding sockets | A4 | : PTO HI 30 l/min indicator | E7 | : Voltmeter regulator |
| X | : Shunt | B4 | : PTO HI reset indicator | F7 | : WELD/AUX switch |
| W | : D.C. inductor | C4 | : PTO HI 20 l/min solenoid valve | G7 | : Reactor, 3-phase |
| Y | : Welding diode bridge | D4 | : PTO HI 30 l/min solenoid valve | H7 | : Switch disconnecter |
| A1 | : Arc striking resistor | E4 | : Hydraulic oil pressure switch | I7 | : Solenoid stop timer |
| B1 | : Arc striking circuit | F4 | : Hydraulic oil level gauge | L7 | : "VODIA" connector |
| C1 | : 110V D.C./48V D.C. diode bridge | G4 | : Preheating glow plugs | M7 | : "F" EDC4 connector |
| D1 | : E.P.1 engine protection | H4 | : Preheating gearbox | N7 | : OFF-ON-DIAGN. selector |
| E1 | : Engine stop solenoid | I4 | : Preheating indicator | O7 | : DIAGNOSTIC push-button |
| F1 | : Acceleration solenoid | L4 | : R.C. filter | P7 | : DIAGNOSTIC indicator |
| G1 | : Fuel level transmitter | M4 | : Heater with thermostat | Q7 | : Welding selector mode |
| H1 | : Oil or water thermostat | N4 | : Choke solenoid | R7 | : VRD load |
| I1 | : 48V D.C. socket | O4 | : Step relay | S7 | : 230V 1-phase plug |
| L1 | : Oil pressure switch | P4 | : Circuit breaker | T7 | : V/Hz analogic instrument |
| M1 | : Fuel warning light | Q4 | : Battery charge sockets | U7 | : Engine protection EP6 |
| N1 | : Battery charge warning light | R4 | : Sensor, cooling liquid temperature | V7 | : G.F.I. relay supply switch |
| O1 | : Oil pressure warning light | S4 | : Sensor, air filter clogging | Z7 | : Radio remote control receiver |
| P1 | : Fuse | T4 | : Warning light, air filter clogging | W7 | : Radio remote control transmitter |
| Q1 | : Starter key | U4 | : Polarity inverter remote control | X7 | : Isometer test push-button |
| R1 | : Starter motor | V4 | : Polarity inverter switch | Y7 | : Remote start socket |
| S1 | : Battery | Z4 | : Transformer 230/48V | A8 | : Transfer fuel pump control |
| T1 | : Battery charge alternator | W4 | : Diode bridge, polarity change | B8 | : Ammeter selector switch |
| U1 | : Battery charge voltage regulator | X4 | : Base current diode bridge | C8 | : 400V/230V/115V commutator |
| V1 | : Solenoid valve control PCBT | Y4 | : PCB control unit, polarity inverter | D8 | : 50/60 Hz switch |
| Z1 | : Solenoid valve | A5 | : Base current switch | E8 | : Cold start advance with temp. switch |
| W1 | : Remote control switch | B5 | : Auxiliary push-button ON/OFF | F8 | : START/STOP switch |
| X1 | : Remote control and/or wire feeder socket | C5 | : Accelerator electronic control | G8 | : Polarity inverter two way switch |
| Y1 | : Remote control plug | D5 | : Actuator | H8 | : Engine protection EP7 |
| A2 | : Remote control welding regulator | E5 | : Pick-up | I8 | : AUTOIDLE switch |
| B2 | : E.P.2 engine protection | F5 | : Warning light, high temperature | L8 | : AUTOIDLE PCB |
| C2 | : Fuel level gauge | G5 | : Commutator auxiliary power | M8 | : A4E2 ECM engine PCB |
| D2 | : Ammeter | H5 | : 24V diode bridge | N8 | : Remote emergency stop connector |
| E2 | : Frequency meter | I5 | : Y/▲ commutator | O8 | : V/A digital instruments and led VRD PCB |
| F2 | : Battery charge transformer | L5 | : Emergency stop button | P8 | : Water in fuel |
| G2 | : Battery charge PCB | M5 | : Engine protection EP5 | Q8 | : Battery disconnect switch |
| H2 | : Voltage selector switch | N5 | : Pre-heat push-button | R8 | : Inverter |
| I2 | : 48V a.c. socket | O5 | : Accelerator solenoid PCB | S8 | : Overload led |
| L2 | : Thermal relay | P5 | : Oil pressure switch | T8 | : Main IT/TN selector |
| M2 | : Contactor | Q5 | : Water temperature switch | U8 | : NATO socket 12V |
| N2 | : G.F.I. and circuit breaker | R5 | : Water heater | V8 | : Diesel pressure switch |
| O2 | : 42V EEC socket | S5 | : Engine connector 24 poles | Z8 | : Remote control PCB |
| P2 | : G.F.I. resistor | T5 | : Electronic GFI relais | W8 | : Pressure turbo protection |
| Q2 | : T.E.P. engine protection | U5 | : Release coil, circuit breaker | X8 | : Water in fuel sender |
| R2 | : Solenoid control PCBT | V5 | : Oil pressure indicator | Y8 | : EDC7-UC31 engine PCB |
| S2 | : Oil level transmitter | Z5 | : Water temperature indicator | A9 | : Low water level sender |
| T2 | : Engine stop push-button T.C.1 | W5 | : Battery voltmeter | B9 | : Interface card |
| U2 | : Engine start push-button T.C.1 | X5 | : Contactor, polarity change | C9 | : Limit switch |
| V2 | : 24V c.a. socket | Y5 | : Commutator/switch, series/parallel | D9 | : Starter timing card |
| Z2 | : Thermal magnetic circuit breaker | A6 | : Commutator/switch | E9 | : Liquid pouring level float |
| W2 | : S.C.R. protection unit | B6 | : Key switch, on/off | F9 | : Under voltage coil |
| X2 | : Remote control socket | C6 | : QEA control unit | G9 | : Low water level warning light |
| Y2 | : Remote control plug | D6 | : Connector, PAC | H9 | : Chopper driver PCB |
| A3 | : Insulation monitoring | E6 | : Frequency rpm regulator | I9 | : |
| B3 | : E.A.S. connector | F6 | : Arc-Force selector | L9 | : |
| C3 | : E.A.S. PCB | G6 | : Device starting motor | | |
| D3 | : Booster socket | H6 | : Fuel electro pump 12V c.c. | | |
| E3 | : Open circuit voltage switch | I6 | : Start Local/Remote selector | | |

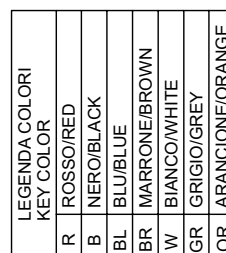
MOTORI HONDA
HONDA ENGINES

AVVIAMENTO A STRAPPO
MANUAL RECOIL STARTER



| | |
|---|-----------------------------|
| | LEGENDA COLORI KEY COLOR |
| B | NERO/BLACK |
| Y | GIALLO/YELLOW |

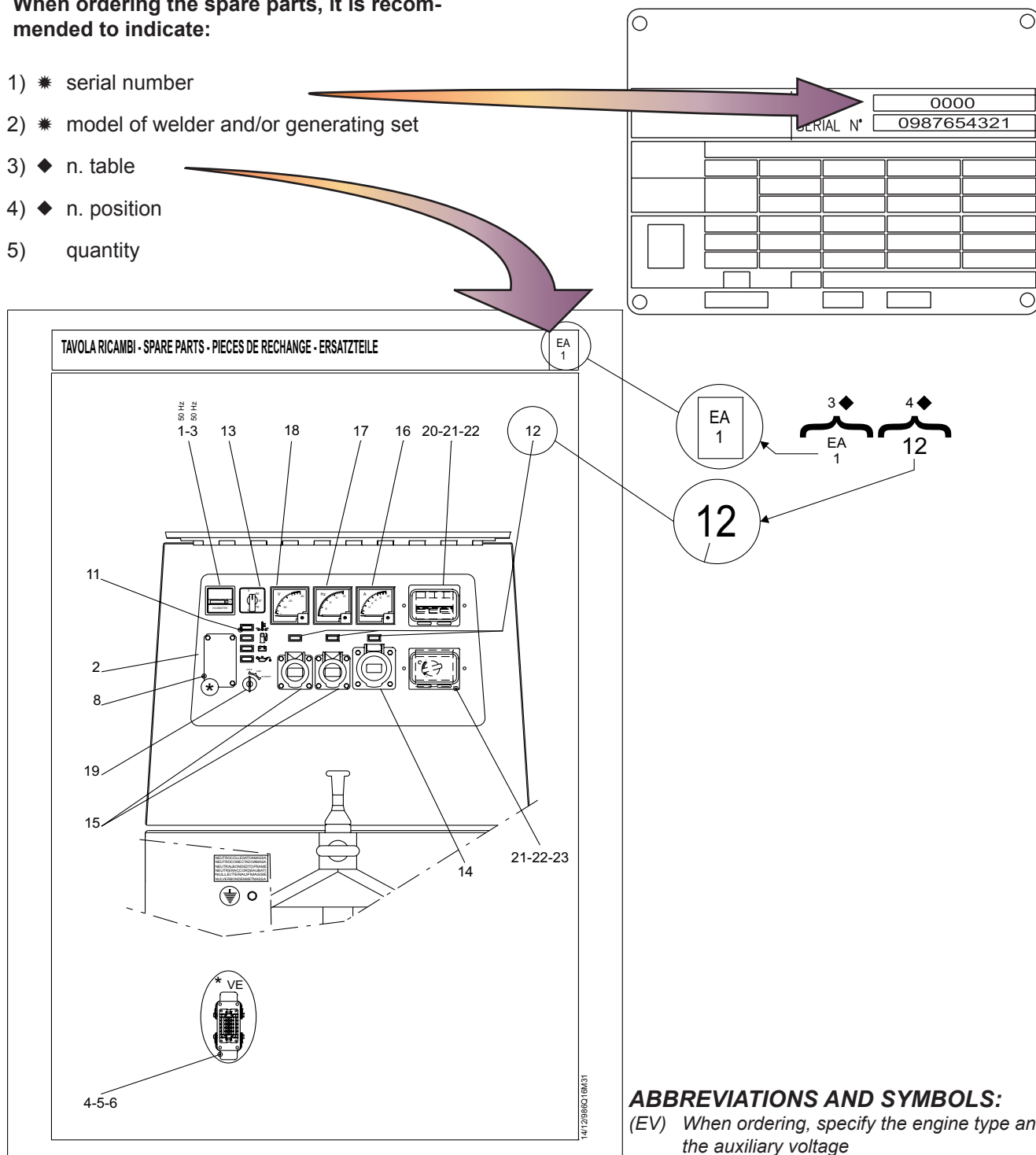
| | | | | |
|--------------|---------------------------------|-----------------------|----------------------|------------------------|
| Exp. Exp. | Modifica Modification | Data Date | Dis. Desi. | Appr. Appr. |
| | Denominazione: Denomination: | Progetto: Project: | Dis. n°: Dwg. n°: | Appr. n°: Appr. n°: |
| | Da Pag. From Page | 30625.prg | 2 | 3 |
| | Ala Pag. To Page | | | |
| | Disegnatore: Designer: | 20.12.2000 | Dis. n°: Dwg. n°: | Appr. n°: Appr. n°: |
| | Macchina: Machine: | Balducci F. | 23212.S.010 | 30625.prg |

[illegible]

To keep the machine in full working order, when replacement spare parts is required, always ask for genuine parts only.

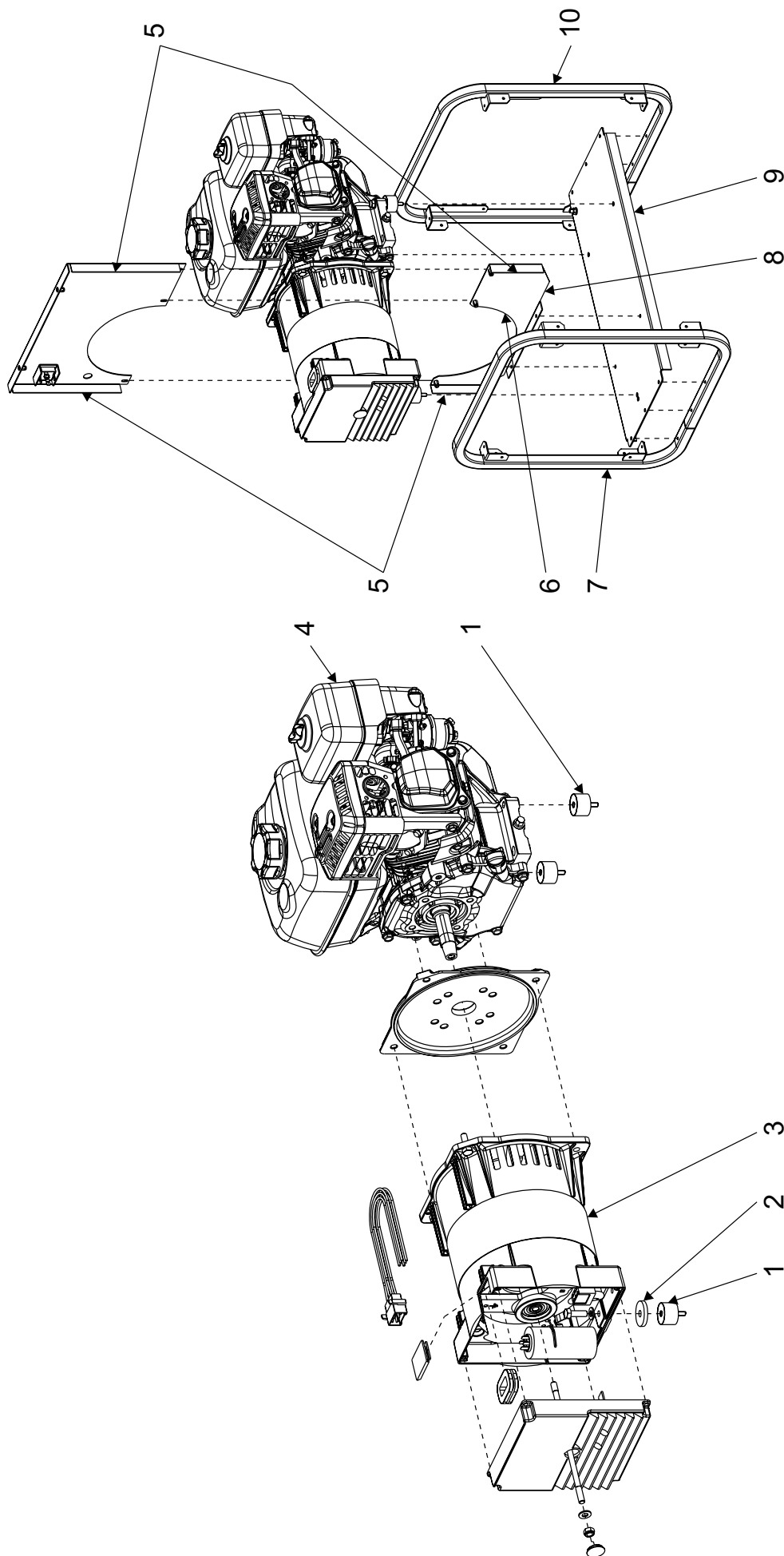
👉 The requested data are to be found on the data plate located on the machine structure, quite visible and easy to consult. 🌟

- 1) * serial number
- 2) * model of welder and/or generating set
- 3) ♦ n. table
- 4) ♦ n. position
- 5) quantity



ABBREVIATIONS AND SYMBOLS:

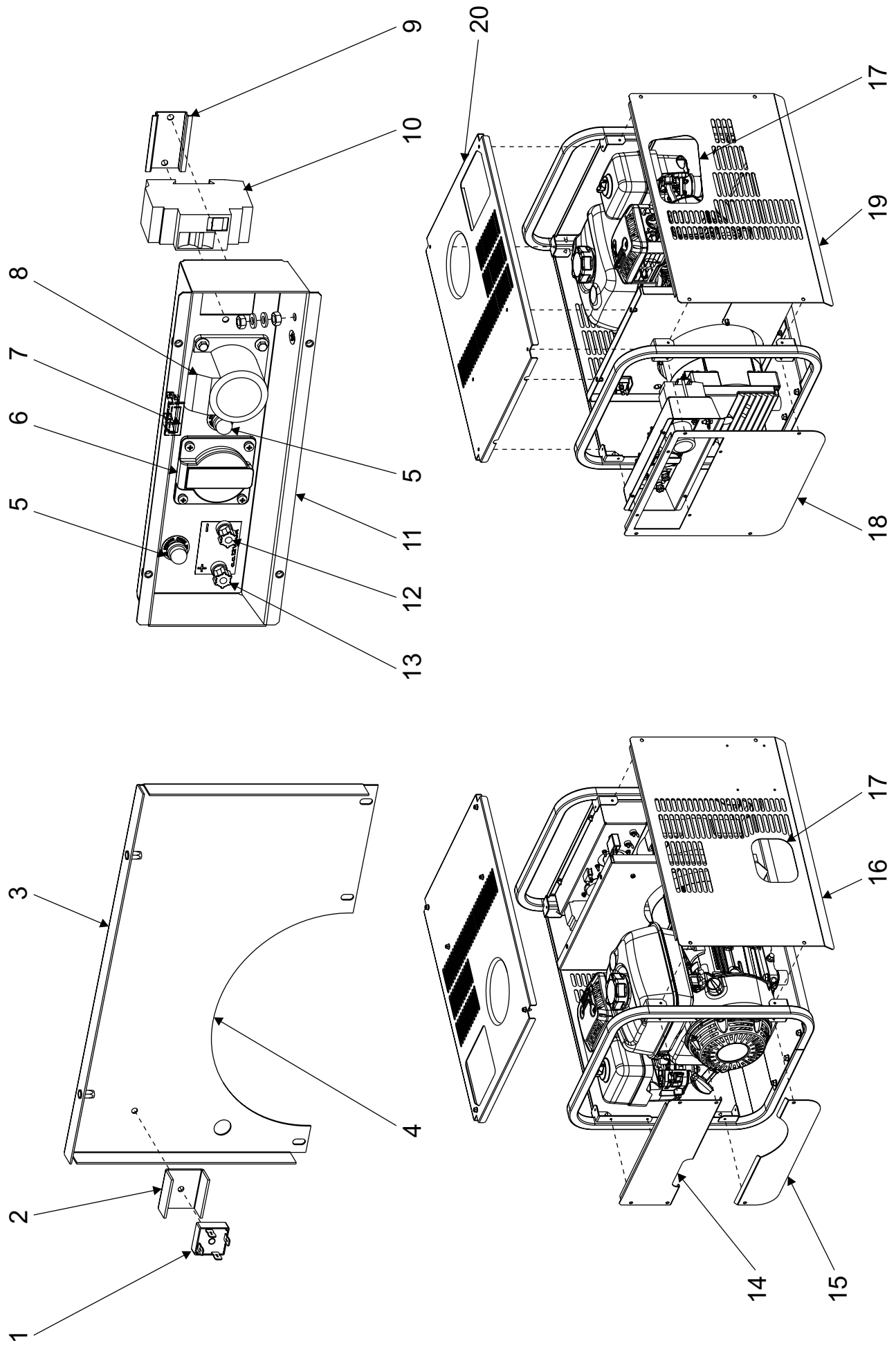
- (EV) When ordering, specify the engine type and the auxiliary voltage
(ER) Engine with recoil starter only
(ES) Engine with electric starter only
(VE) E.A.S version only.
(QM) When ordering, specify the length in meters
(VS) Special version only
(SR) By request only



| | | | |
|----------------------|----------------------|------------|--------------------------|
| Ⓘ Ricambi | Ⓓ Ersatzteile | GE 3200 SX | GM 4.1 REV.0-08/12 |
| ⒼB Spare parts | Ⓔ Tabla de recambios | | |
| Ⓕ Pièces de rechange | ⓃL | | |
| | | | |

| Pos. | Cod. | Descr. | Note |
|-------------|-------------|-------------------------------|-------------|
| 1 | 306411035 | SUPPORTO ELASTICO | |
| 2 | 306202038 | RONDELLA | |
| 3 | 306223100 | ALTERNATORE | |
| 4 | 222622200 | MOTORE HONDA | |
| 5 | 309509005 | GUARNIZIONE | qm |
| 6 | 102302280 | GUARNIZIONE (L=MT.1) | qm |
| 7 | 306201145 | TELAIO LATO FRONTALE | |
| 8 | 306228218 | PARATIA INFERIORE ALTERNATORE | |
| 9 | 306201047 | BASE | |
| 10 | 306251146 | TUBO CURVATO LATO MOTORE | |

| Pos. | Cod. | Descr. | Note |
|-------------|-------------|----------------------|-------------|
| 1 | 306411035 | SUPPORT, ELASTIC | |
| 2 | 306202038 | WASHER | |
| 3 | 306223100 | SINCRO ALTERNATOR | |
| 4 | 222622200 | HONDA ENGINE | |
| 5 | 309509005 | GASKET | qm |
| 6 | 102302280 | GASKET (L=MT.1) | qm |
| 7 | 306201145 | FRAME,FRONT PLATE | |
| 8 | 306228218 | ALTERNATOR UNDERWALL | |
| 9 | 306201047 | BASE | |
| 10 | 306251146 | FRAME, ENGINE SIDE | |



| | | | |
|----------------------|----------------------|------------|--------------------------|
| Ⓘ Ricambi | Ⓓ Ersatzteile | GE 3200 SX | GM 5.1 REV.1-10/08 |
| ⒼB Spare parts | Ⓔ Tabla de recambios | | |
| Ⓕ Pièces de rechange | Ⓖ NL | | |
| | | | |

| Pos. | Cod. | Descr. | Note |
|-------------|-------------|--------------------------------|-------------|
| 1 | 1270070 | PONTE DIODI 120A | |
| 2 | 306225030 | DISSIPATORE PER PONTE DIODI | |
| 3 | 306228217 | PARATIA SUPERIORE ALTERNATORE | |
| 4 | 102302280 | GUARNIZIONE (L=MT.1) | qm |
| 5 | 306467109 | PROTEZIONE TERMICA (C.B.) | |
| 6 | 259107241 | PRESA SCHUKO 16A 230V - 2P+T | |
| 7 | 1302530 | SEGNALATORE RETT.220V AC VERDE | |
| 8 | 307017240 | PRESA 220V 16A | |
| 9 | 306417036 | GUIDA FISSAGGIO INTERRUETTORE | |
| 10 | 220237105 | Vedi Cod.256007105 | |
| 11 | 306257020 | PANNELLO FRONTALE | |
| 12 | 306417318 | PRESA C.B. NERA (-) | |
| 13 | 306417316 | PRESA C.B. ROSSA (+) | |
| 14 | 306258015 | PANNELLO SUPERIORE LATO MOTORE | |
| 15 | 306258025 | PANNELLO INFERIORE LATO MOTORE | |
| 16 | 306208005 | CARENATURA LATO SERBATOIO | |
| 17 | 306418310 | GUARNIZIONE (L=MT.1) | qm |
| 18 | 306228020 | PANNELLO LATO ALTERNATORE | |
| 19 | 306208010 | CARENATURA LATO SILENZIATORE | |
| 20 | 306208021 | CARENATURA SUPERIORE | |

| Pos. | Cod. | Descr. | Note |
|-------------|-------------|--------------------------------|-------------|
| 1 | 1270070 | DIODE BRIDGE 120A | |
| 2 | 306225030 | DIODE BRIDGE, DISSIPATOR | |
| 3 | 306228217 | ALTERNATOR TOP BULKHEAD | |
| 4 | 102302280 | GASKET (L=MT.1) | qm |
| 5 | 306467109 | THERMOPROTECTION (B.C.) | |
| 6 | 259107241 | SOCKET SCHUKO 16A 230V 2P+T | |
| 7 | 1302530 | RECTANGULAR WARNING LAMP GREEN | |
| 8 | 307017240 | EEC SOCKET 16A, 220V 2P+T | |
| 9 | 306417036 | FIXING GUIDE INTERRUPTOR | |
| 10 | 220237105 | See Part n°256007105 | |
| 11 | 306257020 | FRONT PANEL | |
| 12 | 306417318 | BLACK B.C. SOCKET (-) | |
| 13 | 306417316 | RED BATTERY CHARGER SOCKET (+) | |
| 14 | 306258015 | TOP PANEL ENGINE SIDE | |
| 15 | 306258025 | LOWER PANEL ENGINE SIDE | |
| 16 | 306208005 | COVER | |
| 17 | 306418310 | PROTECTION GASKET (L=MT.1) | qm |
| 18 | 306228020 | PLATE ALTERNATOR SIDE | |
| 19 | 306208010 | COVER | |
| 20 | 306208021 | TOP COVER | |