GE 7000 - 7500 HSX

1011

357709003 - GB

USE AND MAINTENANCE MANUAL SPARE PARTS CATALOGS

© MOSA - 01/09/08 35770M00 preparato da UPT approvato da DITE



The generating set GE 7000-7500 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

MOSA has certified its quality system according to UNI EN ISO 9001:2008 to ensure a constant, highquality of its products. This certification covers thedesign, production and servicing of engine drivenwelders and generating sets.

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

This certification is not a point of arrival but a pledgeon the part of the entire company to maintain a levelof quality of both its products and services whichwill continue to satisfy the needs of its clients, aswell as to improve the transparency and thecommunications regarding all the company's actives in accordance with the official procedures and inharmony 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 applicationand use of the products to assure the security of the operator and protect the environment;
- Regular inspections by ICIM to confirm that therequirements of the company's quality systemand ISO 9001 are being respected.

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

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GE_, MS_, TS_, EAS

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

The assistance and maintenance personel 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 from MOSA 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 MOSA 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 from MOSA.

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 MOSA from the risks which could happen or, anyway, from that which was agreed when selling the machine; MOSA 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 by MOSA: 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 MOSA, 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.



0/10/02 M 1-1 GE



Any of our product is labelled with CE marking attesting its conformity to appliable 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.

Vie Europa, 59-20090 CUSAGO (MI) ITALY M Image: Signal Amplitude Signal Amplitude </th						
CE	Made	in UE-ITAL	Y	. TYPE . SERIAL N .		
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<u>o</u> Mosa	V.le Europa, 59-20090 CUSAGO (MI) tel. +39-0290352.1 fax +39-029039 http://www.mosa.it e-mail: info®m	O466 osa.it
Generating Set	LY TYPE	
	JL IL JL <u>LTP POWER IN ACCORDANCE WITH ISO</u>	8528
RPM	L CL P TEMP. 25 °C MASS	
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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



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 SAL	DATURA / WELDING GENERATO	R
GRUPPO ELETTROGENO / POW	ER GENERATOR	
Marchio / Brand :	_MOSA	<u>П</u>
Modello / Model :		
Matricola / Serial number		
è conforme con quanto previsto da est en conformité avec ce qui est p conforms with the Community Direc mit den Vorschriften der Gemeinsc in overeenkomst is met de inhoud v comple con los requisitos de la Dire	Ile Direttive Comunitarie e relative revu par les Directives Communaut ctives and related modifications: haft und deren Ergänzungen überei van gemeenschapsrichtlijnemen ger ectiva Comunitaria y sus anexos:	modifiche: aires et relatives modifications: instimmt: relateerde modificaties:

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 und 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

Ing. Benso Marelli Amministratore Delegato CEO

Cusago,

REV.2-10/11		GE 7000-7500 HSX	1.5
Technical data	GE 7000 HSX	GE 7500 HSX	
GENERATORE			
*Stand-by three-phase output **PRP three-phase output	-	7.5 kVA (6 kW) / 400 V / 10.8 (8.7) A 6.5 kVA (5.2 kW) / 400 V / 9.4 A	
*Stand-by single-phase output) **PRP single-phase output Frequency	5.5 kVA (5 kW) / 230 V / 23.9 A 5.5 hVA (5 kW) / 230 V / 23.9 A 50 Hz	- 4 kVA (4 kW) / 230 V / 17.4 A 50 Hz 0 8	
	self-excited self-regulated brushless	0.0 self-excited self-regulated with brush	
Type Insulating class	synchronous, single-phase H	synchronous, three-phase H	
ENGINE			
Mark / Model Type / Cooling system Cylinders / Displacement *Stand-by net power *PRP net power Speed Fuel consumption (75% of PRP) Engine oil capacity Starter GENERAL SPECIFICATIONS	HONDA / GX 390 gasoline 4-Stroke, OHV / a 1 / 389 cm ³ 8.2 kW (11.1 HP) 6.4 kW (8.7 HP) 3000 rpm 2.4 l/h 1.1 l Electric	ir	
Tank capacity Running time (75% of PRP) Protection *Dimensions max. on base Lxwxh (mm) *Weight (dry) Measured acoustic power LwA (pression LpA) Guaranteed acoustic power LwA (pression LpA * Dimensions and weight are inclusive of all parts.	20 I 8.3 h IP 23 1060x570x665 155 Kg 88 dB(A) (63 dB(A) @ 7 m 89 dB(A) (64 dB(A) @ 7 m	165 Kg) INTER	

. .

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 enduser 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 (L_{WA}) of 95 dB(A)

Lp a 1 meter = 95 dB(A) - 8 dB(A) = 87 dB(A)	Lp a 7 meters = 95 dB(A) - 25 dB(A) = 70 dB(A)
Lp a 4 meters = 95 dB(A) - 20 dB(A) = 75 dB(A)	Lp a 10 meters = 95 dB(A) - 28 dB(A) = 67 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) 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 <u>indicative</u>. 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

<u> DANGEROUS</u>

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



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



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



These headings refer to information which will assis 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.

PROHIBITIONS No harm for persons

Use only with safety clothing -



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





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.

<u>Use only with safety protections</u> -



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.





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chine, in the place where it is used as generator group and/or welder.

The installation and the general advice concerning the operations, are finalized to the correct use of the ma-

ENGINE	Stop engine when fueling		Do not touch electric devices
	Do not smoke, avoid flames, sparks or electric tools when fueling.		if you are barefoot or with wet clothes.
	Unscrew the cap slowly to let out the fuel vapours.		Always keep off leaning sur-
	Slowly unscrew the cooling liquid tap if the liquid must be topped up.	8	faces during work operations.
	The vapor and the heated cooling liquid under pressure can burn face, eyes, skin.		Static electricity can demage
	Do not fill tank completely.	X	the parts on the circuit.
_	Wipe up spilled fuel before starting engine.	Ш	An alaatria ahaak aan kill
	Shut off fuel of tank when moving machine (where it is assembled).	Ե	
	Avoid spilling fuel on hot engine.		
	Sparks may cause the explosion of battery vapours		



FIRST AID. In case the operator shold 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 dioxyde) 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 inflamability point is very low.			





THE MACHINE <u>MUST NOT BE USED</u> IN AREAS WITH EX-PLOSIVE ATMOSPHERE



INSTALLATION AND ADVICE BEFORE USE

GASOLINE ENGINES

Use in open space, air swept or vent exhaust gases, which contain the deathly 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: <u>block</u> it possibly with tools and/or devices made to this purpose.

MOVES OF THE MACHINE

At any move check that the engine is <u>off</u>, 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.









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NOTE





Be sure that the lifting devices are: correctly mounted, adequate for the weight of the machine with it's 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.



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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 it's 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.

<u>DO NOT</u> LOAD OTHER PARTS WHICH CAN MODIFY WEIGHT AND BARICENTER POSITION. IT IS STRICTLY <u>FORBIDDEN</u> 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.







CTM 7

Note: Lift the machine and assemble the parts as shown in the drawing





The CTM accessory cannot be removed from the machine and used separately (actioned manually or following vehicles) for the transport of loads or anyway for used different from the machine movements.



(GB) Set-up for operation REV 0-09/08 F



BATTERY WITHOUT MAINTENANCE

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.



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.

Agip	
PRODOTTI RACCOMAN	IDATI
RECOMMENDED PROD	UCTS
AGIP SIGMA TURBO PLUS 15W/40	OLIO MOTORE DIESEL
API CG4 - ACEA E3	DIESEL ENGINE OIL
AGIP SUPERMOTOROIL 20W/50	OLIO MOTORE BENZINA
API CC-SF	GASOLINE ENGINE OIL
AGIP ANTIFREEZE EXTRA	CIRCUITO DI RAFFREDDAMENTO
INIBITE ETHYLENE GLYCOL	COOLING CIRCUIT
(50% + 50% + H ₂ O)	(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 using the syringe supplied.



Upper oil level

ATTENTION

It is dangerous to fill the motor with too much oil, as its combustion can provoke a sudden increase in rotation speed.

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). Stop the generating set as soon as possible whenever

the low fuel level warning light (M1) is lighted (if mounted on the group) and make the refueling.

If the engine doesn't start after the stop, and the warning light is lighted during the starting, it means that there is a lack of fuel in the tank.

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.



GROUNDING CONNECTION

The grounding connection to an earthed installation is **obligatory** for all models equipped with a differential switch (circuit breaker). In these groups the generator star point is generally connected to the machine's earthing; by employing the TN or TT distribution system, the differential switch guarantees protection against indirect contacts.

In the case of powering complex installations requiring or employing additional electrical protection devices, the coordination between the protection devices must be verified.

For the grounding connection, use the terminal (12); comply to local and/or current regulations in force for ⊕ 35770electrical installations and safety.





check before each start-up



START-UP FROM "LOCAL/START" FRONT PANFI

- **1**. Position the LOCAL START / REMOTE START (I6) selector on LOCAL START;
- 2. make sure the load plugs are disconnected



or the G.F.I. switch (D) is not inserted



(intervention/insertion lever facing down), so as to ensure the motor's startup without any loads inserted;

3. open the gasoline tap (87) by turning it towards the inside:



- 5. press the CHOKE button (L6) and simultaneously turn the key to the START position, holding it until the motor has started;
- 6. leave the key in the ON position, then wait a few moments before releasing the choke button; if the motor tends to shut itself off press the choke button once again until the motor has properly started up.
- Do not use the CHOKE button if the motor is hot or if the ambient temperature is sufficiently high.

- NB: it is necessary to unplug the EAS cable from its connector to allow the engine to start.
- In case of unsuccessful start-up, do not R insist for longer than 5 seconds. Wait 10 seconds before attempting another start-up.

REMOTE START

The unit can also be started by means of the remote TCM control device, or through the EAS automatic intervention panel.

- 1. Position the LOCAL START / REMOTE START (I6) selector on REMOTE START;
- 2. Connect to the EAS (B3) connector the TCM or the EAS panel.

Start-up with TCM

Use the controls located on the TCM in the same manner as described for start-up from the front panel.

Start-up with EAS

The EAS panel will automatically manage the start-up.

See operating manual for EAS panel.

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.





SHUT-DOWN FROM FRONT PANEL

1. Position the LOCAL START /REMOTE START (I6) selector on LOCAL START;



to shut down the motor in an emergency situation, turn the key (Q1) to the OFF position;

3. to stop the motor under normal conditions, proceed as follows:

3a.interrupt the power source, switching



G.F.I. switch lever (D);

- 3b. allow the motor to run without any load for a few minutes;
- 3c. turn the key (Q1) to the OFF position.

SHUT-DOWN with TCM

Follow the operating procedures for shut-down under normal or emergency conditions, as described in the paragraph SHUT-DOWN FROM FRONT PANEL, using the key (Q1) on the TCM.

SHUT-DOWN with EAS

Shut-down is controlled automatically. See operating manual for the EAS panel. At the end of each use of the generator, close the gasoline tap (87).

SHUT-DOWN FROM REMOTE



The start-up selector (I6) LOCAL START / RE-MOTE START enables the start-up and stop controls for the selected position.

From the REMOTE START position, the startup key on the front panel is completely disabled; to stop the generator, use the controls on the TCM or EAS panel. In case of an extended period of inactivity of the generator, switch off the motor by closing the gasoline tap (87); this precautionary measure serves to avoid probable deposits in the carburettor.

The unit can also be shut down by means of the TCM remote control or EAS panel.

- Check that the EAS (B3) connector is connected to the cable from the TCM or EAS panel.
- Verify or position the LOCAL START / RE-MOT START (I6) selector on REMOTE START.
- NB.: as a safety measure the start-up key must be entrusted to qualified personnel.



GE 7000 STD Version





GE 7000 Schuko Version



GE 7500 STD Version



GE 7500 Schuko Version

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
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
87	Rubinetto carburante	Fuel cock	Robinet de l'essence	Grifo de combustible
88	Siringa olio	Oil syringe	Siringue huile	Jeringa aceite
B3	Connettore EAS	EAS connector	Connecteur EAS	Conector EAS
D	Interruttore differenziale (30mA)	G.F.I.	Interrupteur différentiel	Interruptor diferencial (30 mA)
16	Selettore Start Local/Remote	Start Local/Remote selector	Selecteur Start Local/Remote	Selector Start Local/Remote
L6	Pulsante choke	Choke button	Bouton Choke	Pulsador Choke
М	Contaore	Hour counter	Compte-heures	Cuentahoras
M1	Spia riserva carburante	Fuel warning light	Voyant réserve carburant	Piloto reserva carburante
Ν	Voltmetro	Voltmeter	Voltmètre	Voltímetro
Q1	Chiave di avviamento	Starter key	Clé de démarrage	Llave de arranque
S1	Batteria	Battery	Batterie	Batería
Z2	Interruttore magnetotermico	Thermal magnetic circuit breaker	Interrupteur magnétothermique	Interruptor magnetotérmico

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WARNING

It is absolutely forbidden to connect the unit to the public mains and/or another electrical power source.



Access <u>forbidden</u> to area adjacent to electricity-generating group for all nonauthorized 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)

Before each work session check the efficiency of the ground connection for the electricity-generating group if the distribution system adopted requires it, such as, for example, the TT and TN systems.

Check that the electrical specifications for the units to be powered - voltage, power, frequency - are compatible with those of the generator. Values that are too high or too low for voltage and frequency can damage electrical equipment irreparably.

In some cases, for the powering of three-phase loads, it is necessary to ensure that the cyclic direction of the phases corresponds to the installation's requirements.

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

Before starting up the group, make certain no dangerous situations exist on the installation to be powered.

Check that the thermal-magnetic switch (Z2) is in the OFF position (input lever in downward position).

Start up the electricity-generating group, positioning the thermal-magnetic switch (Z2) and differential switch (D) to ON (input lever in upward position).

Before powering on the utilities, check that the voltmeter (N) and frequency meter (E2) indicate nominal values; in addition, check on the voltmeter change-over switch (H2) (where it is assembled) that the three line voltages are the same.

In the absence of a load, the values for voltage and frequency can be greater than their nominal values. See sections on VOLTAGE and FREQUENCY.

OPERATING CONDITIONS

POWER

The electrical power expressed in kVA on an electricitygenerating group is the available output power to the reference environmental conditions and nominal values for: voltage, frequency, power factors ($\cos \varphi$).

There are various types of power: PRIME POWER

(PRP), STAND-BY POWER established by ISO 8528-1 and 3046/1 Norms, and their definitions are listed in the manual's TECHNICAL SPECIFICATIONS page.

During the use of the electricity-generating group NE-VER EXCEED the power indications, paying careful attention when several loads are powered simultaneously.

VOLTAGE

GENERATORS WITH COMPOUND SETTING (THREEPHASE) GENERATORS WITH CONDENSER SETTING

GENERATORS WITH CONDENSER SETTING (SINGLEPHASE)

In these types of generators, the no-load voltage is generally greater than 3–5% with respect to its nominal value; f.e. for nominal voltage, threephase 400Vac or singlephase 230Vac, the no-load voltage can be comprised between 410-420V (threephase) and 235-245V (singlephase). The precision of the load voltage is maintained within ±5% with balanced loads and with a rotation speed variation of 4%. Particularly, with resistive loads (cos ϕ = 1), a voltage over-elevation occurs which, with the machine cold and at full load, can even attain +10 %, a value which in any case is halved after the first 10-15 minutes of operation. The insertion and release of the full load, under constant rotation speed, provokes a transitory voltage variation that is less than 10%; the voltage returns to its nominal value within 0.1 seconds.

GENERATORS WITH ELECTRONIC SETTING (A.V.R.)

In these types of generators, the voltage precision is maintained within $\pm 1,5\%$, with speed variations comprised from -10% to +30%, and with balanced loads. The voltage is the same both with no-load and with load; the insertion and release of the full load provokes a transitory voltage variation that is less than 15%; the voltage returns to its nominal value within 0.2–0.3 seconds.

FREQUENCY

The frequency is a parameter that is directly dependent on the motor's rotation speed. Depending on the type of alternator, 2 or 4 pole, we will have a frequency of 50/60 Hz with a rotation speed of 3000/3600 or 1500/1800 revolutions per minute.

The frequency, and therefore the number of motor revolutions, is maintained constant by the motor's speed regulation system.

Generally, this regulator is of a mechanical type and presents a droop from no-load to nominal load which is less than 5 % (static or droop), while under static conditions precision is maintained within $\pm 1\%$. Therefore, for generators at 50Hz the no-load frequency can be 52–52.5 Hz, while for generators at 60Hz the no-load $\overset{\cup}{}_{0}$ frequency can be 62.5-63Hz.





In some motors or for special requirements the speed regulator is electronic; in these cases, precision under static operating conditions attains $\pm 0.25\%$, and the frequency is maintained constant in operation from no-load to load (isochronal operation).

<u>POWER FACTOR - COS</u>φ

The power factor is a value which depends on the load's electrical specifications; it indicates the ratio between the Active Power (kW) and Apparent Power (kVA). The apparent power is the total power necessary for the load, achieved from the sum of the active power supplied by the motor (after the alternator has transformed the mechanical power into electrical power), and the Reactive Power (kVAR) supplied by the alternator. The nominal value for the power factor is $\cos \varphi = 0.8$; for different values comprised between 0.8 and 1 it is important during usage not to exceed the declared active power (kW), so as to not overload the electricity-generating group motor; the apparent power (kVA) will diminish proportionally to the increase of $\cos \varphi$.

For $\cos \varphi$ values of less than 0.8 the alternator must be downgraded, since at equal apparent power the alternator should supply a greater reactive power. For reduction coefficients, contact the Technical Service Department.

START-UP OF ASYNCHRONOUS MOTORS

The start-up of asynchronous motors from an electricitygenerating group can prove critical because of high startup currents the asynchronous motor requires (I start-up = up to 8 times the nominal current In.). The start-up current must not exceed the alternator's admissible overload current for brief periods, generally in the order of 250–300% for 10–15 seconds.

To avoid a group oversize, we recommend following these precautionary measures:

- in the case of a start-up of several motors, subdivide the motors into groups and set up their start-up at intervals of 30–60 seconds.
- when the operating machine coupled to the motor allows it, see to a start-up with reduced voltage, star point/triangle start-up or with autotransformer, or use a soft-start system.

In all cases, when the user circuit requires the start-up of an asynchronous motor, it is necessary to check that there are no utilities inserted into the installation, which in the case of a voltage droop can cause more or less serious disservices (opening of contact points, temporary lack of power to control and command systems, etc.).

SINGLE-PHASE LOADS

Power to monophase utilities by means of three-phase generators requires some operating limitations.

- In single-phase operation, the declared voltage tolerance can no longer be maintained by the regulator (compound or electronic regulator), since the system becomes highly unbalanced. The voltage variation on the phases not affected by the power can prove dangerous; we recommend sectioning the other loads eventually connected.

- The maximum power which can be drawn between Neutral and Phase (start connection) is generally 1/3 of the nominal three-phase power; some types of alternators even allow for 40%. Between two Phases (triangle connection) the maximum power cannot exceed 2/3 of the declared three-phase power.
- In electricity-generating groups equipped with monophase sockets, use these sockets for connecting the loads. In other cases, always use the "R" phase and Neutral.

ELECTRIC PROTECTIONS

THERMAL-MAGNETIC SWITCH

The electricity-generating group is protected against short-circuits and against overloads by a thermalmagnetic switch (Z2) situated upstream from the installation. Operating currents, both thermic and magnetic, can be fixed or adjustable in relation to the switch model.

In models with adjustable operating current <u>do not</u> <u>modify</u> the settings, since doing so can compromise the installation's protection or the electricity-generating



group's output characteristics. For eventual variations, contact our Technical Service Department.

The intervention of the protection feature against overloads is not instantaneous, but follows a current overload/time outline; the greater the overload the less the intervention.

Furthermore, keep in mind that the nominal operating current refers to an operating temperature of 30°C, so that each variation of 10°C roughly corresponds to a



variation of 5% on the value of nominal current.

In case of an intervention on the part of the thermal magnetic protection device,

check that the total absorption does not exceed the electricity-generating group's nominal current.





DIFFERENTIAL SWITCH

The differential switch or differential relay guarantee protection against indirect contacts due to malfunction currents towards the ground. When the device detects a malfunction current that is higher than the nominal current

or the set current, it intervenes by cutting off power to the circuit connected.

In the case of an intervention





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by the differential switch, check that there are no sheathing defects in the installation: connection cables, sockets and plugs, utilities connected.

Before each work session, check the operation of the differential protection device by pressing the test key. The electricity-generating group must be in operation, and the lever on the differential switch must be in the ON position.

THERMIC PROTECTION

Generally present to protect against overloads on an individual power socket c.a.

When the nominal operating current has been exceeded, the protection device intervenes by cutting off power to the socket.

The intervention of the protection device against overloads is not instantaneous, but follows a current overload/time outline; the greater the overload the less the intervention.

In case of an intervention, check that the current absorbed by the load does not exceed the protection's nominal operating current.

Allow the protection to cool off for a few minutes before resetting by pressing the central pole.



ATTENTION

Do not keep the central pole on the thermic protection forcefully pressed to prevent its intervention.

USAGE WITH EAS AUTOMATIC START-UP PANEL

The electricity-generating group in combination with the EAS automatic start-up panel forms a unit for distributing electrical energy within a few seconds of a power failure from the commercial electrical power line.

Below is some general operating information; refer to the automatic panel's specific manual for details on installation, command, control and signalling operations.

Perform connections on the installation in safety conditions. Position the automatic panel in RESET or LOCKED mode.

Carry out the first start-up in MANUAL mode. Check that the generator's LOCAL START / REMOTE START switch (I6) is in the REMOTE position. Check that the generator switches are enabled (input lever in upward position).

Position the EAS panel in manual mode by pressing MAN. key, and only after having checked that there are no dangerous situations, press the START key to start the electricity-generating group.

During the operation of the generator, all controls and signals from both the automatic panel and group are enabled; it is therefore possible to control its operation from both positions.

In case of an alarm with a shutdown of the motor (low pressure, high temperature, etc.), the automatic panel will indicate the malfunction that has caused the stoppage, while the generator's front panel will be disabled and will no longer supply any information.





REMOTE CONTROL TCM 15 - 6

M 38.5

MAKE SURE

When the TCM 15 - 6 is used, it is not possible to connect the E.A.S automatic intervention unit.

USE OF THE REMOTE CONTROL TCM 15

The coupling of the TCM 15 with the generating set, permits to work far from the set itself. The remote control is connected to the front plate, with a multiple connector.

The TCM 15 assures the following fonctions:

- starting (starting key Q1)
- stop (starting key Q1)
- choke control (L6)



USE OF THE REMOTE CONTROL TCM 6

The coupling of the TCM 6 with the generating set, ready for remot starting, permits to work far from the set itself.

The remote control is connected to the front plate, and/or rear plate, with a multiple connector.

The TCM 6 assures the following fonctions:

- starting (starting key Q1)
- stop (starting key Q1)
- indication of oil low pressure (warning light O1)

To stop the set turn the key to the position "OFF".

- TCM 6 TCM 6
- **N.B.**: the position of the selector LOCAL START/ REMOTE START (I6) on the generating sets must be on the position "REMOTE START".



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M 40.2

Problem	Possible cause	Solution
	ENGINE	
The motor does not start up, or starts up and then stops immediately	 Key and start-up selector in the wrong positions Lack of or insufficient oil in the motor Faulty motor stopping device (oil-alert) Lack of fuel in tank or fuel tap closed Bad gasoline. Gasoline oxidizes and deteriorates over time, causing hard starting Dirty or faulty spark plug Battery not activated, low or faulty Battery cable terminals loose or corroded Cold motor Fuel filter restricted, carburetor malfunction, ignition malfunction, valves stuck, etc. 	 Verify start-up procedure in the Operating Manual Refill or top off Replace Refill the tank. Open the fuel tap Drain fuel tank and carburetor. Refuel with fresh gasoline. Clean or check and eventually replace Activate, recharge, or replace the battery Tighten and clean. Replace if corroded. Please keep the CHOKE control in "CLOSE" position for a longer time after the starting. Replace or repair faulty components. Ask for intervention of Service Department
The motor does not accelerate. Inconstant speed. Too little power provided by motor.	 Check the air filter Bad gasoline Fuel filter restricted, carburetor malfunction, ignition malfunction, valves stuck, etc. 	 Clean or replace filter element(s). Refer to engine manual Drain fuel tank and carburetor. Refuel with fresh gasoline Replace or repair faulty components. Ask for intervention of Service Department
	GENERATOR	
Absence of output voltage	 Protection tripped due to overload Differential protection device tripped Protection devices defective Alternator not sparked Alternator defective 	 Check the load connected and diminish Check on the entire installation: cables, connections, utilities connected have no defective sheathing which may cause incorrect currents to ground Replace Carry out external spark test as indicated in alternator manual. Ask for intervention of Service Department Check winding, diodes, etc. on alternator (Refer to alternator manual) Repair or replace. Ask for intervention of Service Department
No-load voltage too low or too high	 1) Incorrect motor running speed 2) Alternator defective 	 Regulate speed to its nominal no-load value Check winding, diodes, etc. on alternator (Refer to alternator manual). Repair or replace. Ask for intervention of Service Department
Corrected no-load voltage too low with load	 Incorrect motor running speed due to overload Load with cos φ less than the nominal one. Alternator defective 	 Check the load connected and diminish Reduce or rephase load Check winding, diodes, etc. on alternator (Refer to alternator manual) Repair or replace. Ask for intervention of Service Department
Unstable tension	 Contacts malfunctioning rregular rotation of motor Alternator defective 	 Check electrical connections and tighten Ask for intervention of Service Department Check winding, diodes, etc. on alternator (Refer to alternator manual) Repair or replace. Ask for intervention of Service Department

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	MARNING	
	 Have <u>qualified</u> 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, <u>pay</u> <u>attention</u> 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. 	
MOVING PARTS can injure	 Use suitable tools and clothes. Do not modify the components if not authorized. See pag. M1.1 - 	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 MOSA.

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

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.

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 **<u>replaced</u>** 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 suppplied 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

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.



GE

ATTENTION

- Maintenance operations on the electricity-generating group prearranged for automatic operation must be carried out with the panel in RESET mode.
- Maintenance operations on the installation's electrical panels must be carried out in complete safety by cutting off all external power sources: ELECTRICAL POWER, GROUP and BATTERY.

For the electricity-generating groups prearranged for automatic operation, in addition to carrying out all periodic maintenance operations foreseen for normal usage, various operations must be carried out that are necessary in relation to the specific type of use. The electricity-generating group in fact must be continuously prepared for operation, even after prolonged periods of inactivity.

MAINTENANCE GENERATING SET WITH AUTOMATIC BOARD

	EVERY WEEK	EVERY MONTH AND/OR AFTER INTERVENTION ON LOAD	EVERY YEAR
1. TEST or AUTOMATIC TEST cycle to keep the generating set constantly operative	NO-LOAD X	WITH LOAD X	
2. Check all levels: engine oil, fuel level, battery electrolyte,, if necessary top it up.	Х	Х	
3. Control of electrical connections and cleaning of control panel		Х	Х

Carry out motor oil change at least once a year, even if the requested number of hours has not been attained.



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 o 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 bloking of the injection system.

For long periods of inactivity, turn to the after soles 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.







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.

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 inflamable 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.

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

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 surroindings, health or safety respecting completely the laws and/or dispositions in force in the place.





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A:

B:

C:

D:

F:

G:

D Stromlaufplan - Referenzliste E Leyenda esquema eléctrico

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- A : Alternateur B : Connexion câ
- B : Connexion câbles C : Condensateurs
- D : Interrupteur différentiel
 - : Interrupteur di : Fusible
- F : Fusible
- G : Prise 400V triphasé
- H : Prise 230V monophasé
- M : Compte-heures
- N : Voltmètre
- G1 : Niveau carburant
- M1 : Voyant réserve carburant
- Q1 : Clé de démarrage
- R1 : Moteur de démarrage S1 : Batterie
- S1 : Batterie
- T1 : Alternateur charge batterie
- S2 : Transmetteur niveau huile
- Z2 : Interrupteur magnétothermique
- B3 : Connecteur E.A.S.
- G3 : Bobine allumage
- H3 : Bougie allumage
- M3 : Diode charge batterie
- N3 : Relais
- N4 : Electro-aimant air
- P4 : Protection thermique I6 : Selecteur Start Local/Remote
- 6 : Pouton Choko
- L6 : Bouton Choke

- : Supporto connessione cavi : Condensatore : Interruttore differenziale
- F : Fusibile

: Alternatore

А

В

С

D

- G : Presa 400V trifase
- H : Presa 230V monofase
- M : Contaore
- N : Voltmetro
- G1 : Trasmettitore livello carburante
- M1 : Spia riserva carburante
- Q1 : Chiave avviamento R1 : Motorino avviamento
- C1 . Detterie
- S1 : Batteria
- T1 : Alternatore carica batteria
- S2 : Trasmettitore livello olio
- Z2 : Interruttore magnetotermico
- B3 : Connettore E.A.S.
- G3 : Bobina accensione
- H3 : Candela accensione M3 : Diodo carica batteria
- NO DIOCO CANCA D
- N3 : Relè
- N4 : Elettromagnete aria
- P4 : Protezione termica
- I6 : Selettore Start Local/Remote
- L6 : Pulsante CHOKE
- A Generator
- B Klemmleiste
- C Kondensatorbox
- D FI-Schalter (GFI)
- F Sicherung
- G Steckdose 400V 3-phasig
- H Steckdose 230V 1-phasig
- M Stundenzähler
- N Voltmeter
- G1 Füllstandssensor Kraftstoff
- M1 Warnleuchte Kraftstoff
- Q1 Zündschloss
- R1 Anlasser
- S1 Batterie
- T1 Ladegenerator Batterie
- S2 Ölstandssensor
- Z2 Thermomagnetschalter (Si-Automat)
- B3 Steckdose EAS/Fernstart
- G3 Zündspule
- H3 Zündkerze
- M3 Diode Batterielader
- N3 Relais
- N4 Elektromagnet Motor-Choke
- P4 Thermosicherung
- I6 Umschalter Fernstart
- L6 Choke-Taste

H: 230V 1phase socket M: Hour-counter

Alternator

Capacitor

G.F.I.

Fuse

Wire connection unit

400V 3-phase socket

- N: Voltmeter
- G1: Fuel level transmitter
- M1: Fuel warning light
- Q1: Starter key
- R1: Starter motor
- S1: Battery
- T1: Battery charge alternator
- S2: Oil level transmitter
- Z2: Thermal magnetic circuit breaker
- B3: E.A.S. connector
- G3: Ignition coil
- H3: Spark plug
- M3: Battery charge diode
- N3: Relay
- N4: Choke solenoid
- P4: Circuit breaker
- I6: Start Local/Remote selector
- L6: Choke button
- A : AlternadorB : Soporte conexión cables

:Fusible

: Condensador

: Cuentahoras

: Voltímetro

Q1 :Llave arrangue

R1 : Motor arrangue

S1 : Batería

: Interruptor diferencial

: Toma 400V trifásica

: Toma 230V monofásica

G1 : Captador nivel carburante

M1 : Piloto reserva carburante

T1 : Alternador carga batería

: Interruptor magnetotérmico

S2 : Captador nivel aceite

:Conector E.A.S.

G3 :Bobina encendido H3 :Bujía encendido

M3 : Diodo carga batería

P4 : Protección térmica

N4 : Electromagnetismo aire

L6 : Pulsador CHOKE (aire)

:Selector Start Local/Remote

С

D

F

G

Н

Μ

Ν

Z2

B3

16

N3 :Relé



Schema elettrico
 D
 GB Electric diagram
 E
 F Schemas electriques

D StromlaufplanE Esquema eléctrico

M 61.1







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D StromlaufplanE Esquema eléctrico





D Stromlaufplan E Esquema eléctrico





Schema elettrico
 GB Electric diagram
 F Schemas electriques

D StromlaufplanE Esquema eléctrico

M 61.5



			R
		GB SPARE PARTS LIST	1
© MOSA	1.0-03/00	E	

MOSA guarantees that any request for spare parts will be satisfied.

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

IP The requested data are to be found on the data



(VS) Special version only (SR) By request only



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	📕 🕕 Ricamb	Di D Ersatzteile		GU
	🗖 🗛 🐻 Spare p	oarts E Tabla de recambios	GE 7000-7500 HSX	1.1
REV.2-10/11	(F) Piéces	de rechange 🛛 🔍		
Pos.	Cod.	Descr.	Note	
1	M105111290	VENTOLA CON FASCETTA		
2	M356323039	DISTANZIALE FISS. VENTOLA		
3	M356403038	RONDELLA DI SICUREZZA		
4	M356321035	ANTIVIBRANTE		
5	M259123101	STAFFA SUPPORTO ALTERNATORE		
6	M306479071	ELETTROMAGNETE COMANDO CHOKE		
7	M356403100	ALTERNATORE	GE 7000 HSX	
7a	M356453100	ALTERNATORE	GE 7500 HSX	
8	M306479108	PERNO		
9	M356403036	TIRANTE		
10	M354509111	LEVA CHOKE		
11	M306479056	TIRANTE		
12	M0000357752200	MOTORE HONDA GX390	Fino a REV.1-09/10 Del.68/11-20/06	6/11
12	M0000357762200	MOTORE HONDA GX390	Da REV.2-10/11 Del.68/11-20/06/11	
13	M357709101	STAFFA SUPPORTO SOLENOIDE		
14	M357709105	LEVA ACCELERATORE (modificata)		
15	M357701050	BASAMENTO		
16	M354659150	BATTERIA		
17	M306469282	ELASTICO FISSAGGIO BATTERIA		
18	M354507037	CLIP D36 L40		
19	M354502078	RACCORDO TUBO SCARICO	Fino a REV.1-09/10 Del.68/11-20/06	5/11
19	M357712078	RACCORDO TUBO SCARICO	Da REV.2-10/11 Del.68/11-20/06/11	
20	M357703097	CUFFIA SUPERIORE ALTERN. (FOR.)		
_				
Pos.	Rev. Cod.	Descr.	Note	
1	M105111290	FAN		
2	M356323039	FIXING FAN SPACER		
3	M356403038			
4	M356321035			
5	M259123101	ALTERNATOR BRACKET		
6	M306479071	ELECTRO MAGNET CHOKE CONTROL		
7	M356403100	ALIERNATOR	GE 7000 HSX	
7a	M356453100	ALTERNATOR	GE 7500 HSX	
8	M306479108	PIN		
9	M356403036	HE-ROD		
10	M354509111			
11	M306479056			
12	M0000357752200	HONDA ENGINE GX390	Up to REV.1-09/10 Del.68/11-20/06/	/11
12	M0000357762200	HONDA ENGINE GX390	From REV.2-10/11 Del.68/11-20/06/	11
13	M357709101			
14	WI357709105			
15	M357701050	BASE		
16	M354659150			
17	M306469282	ELASTIC, FIXING BALLERY		
18	M354507037			
19	IVI354502078		Up to REV.1-09/10 Del.68/11-20/06/	/11
19	IVI35//120/8		From REV.2-10/11 Del.68/11-20/06/	11
∠∪	101357703097	ALIERNATUR UPPER COVER		



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		() Ricambi	D Ersatzteile		GU
REV 1-0		GB Spare parts	E Tabla de recambios	GE 7000-7500 HSX	2.1
IXE V. I-C	55/10	(F) Pieces de rechange			
Pos.	Cod.	Descr.		Note	
1	M101091830	PULSANTE DI STOP / B	UTTON, STOP		
2	M107509902	COMMUTATORE TRIPO	LARE / TRIPOLES SWITCH		
3	M1302500	SEGNALATORE RETT. 1	2V DC ROSSO / WARNING LIGHT		
4	M000035450A	902 VARIANTE CAVI CHIAVE	AVVIAMEN. / STARTING KEY CABLING	Fino a REV.1-09/10 Del.68/11-20	0/06/11
4	M35456A902	VARIANTE CAVI CHIAVE	AVVIAMEN. / STARTING KEY CABLING	Da REV.2-10/11 Del.68/11-20/06	/11
5	M306479199	RELE' AVV. ELETTRICO	RELAY, ELECTRIC START		
6	M105511810	CONTAORE 230V 50Hz	P65 / HOURMETER 230V 50Hz IP65		
7	M270027300	VOLTMETRO DIGITALE	I DIGITAL VOLTMETER		
8	M232027130	CAPPUCCIO PROTEZIO	NE I.D. / CAP		
9	M220237105	Vedi Cod.256007105 / Se	ee Part n°256007105		
10	M232027036	GUIDA / FIXING GUIDE			
11	M256707325	INTERRUTTORE MAGN	ETOTERMICO / CIRCUIT BREAKER		
12	M357707020	PANNELLO FRONTALE	FRONT PANEL		
13	M102042740	CAPPUCCIO / CAP			
14	M35770C020	GR.CAVI MOTORE / STA	RTING KEY CABLING (x connetore EAS)	Fino a REV.1-09/10 Del.68/11-20)/06/11
14	M35771C020	GR.CAVI MOTORE / STA	RTING KEY CABLING (x connetore EAS)	Da REV.2-10/11 Del.68/11-20/06	/11
15	M155307107	DISGIUNTORE TERMIC	O 15A-250V / THERMAL SWITCH 15A-250V		
16	M307017240	PRESA 220V 16A / EEC	SOCKET 16A, 220V 2P+T		
17	M105111520	PRESA CEE 220V MONO	DF. 2P+T / EEC SOCKET SINGLE-PH.220V .	2P+T	
18	M357017027	PIASTRINA / SMALL PLA	TE		
19	M256237300	VOLTMETRO DIGITALE	DIGITAL VOLTMETER		
20	M256557325	INTERRUT.MAGNETOTE	RM. 3P 10A / CIRCUIT BREAKER 3P 10A		
21	M734507325	INTER.MAGNETOTERM	ICO 16A1P+N / CIRCUIT BREAKER 16A 1P	+T	
22	M105111540	INTERR. DIFFERENZIAL	.E 4P / <i>GFI 4P</i>		
23	M734517032	PIASTRINA RIDUZIONE	I REDUCTION FOR SOCKET 32A/16A		
24	M305907270	PRESA CEE 16A 400V 3	P+N+T/EEC SOCKET 16A 400V 3P+N+T		
25	M259107241	PRESA SCHUKO 16A 23	0V - 2P+T / SOCKET SCHUKO 16A 230V 2F	P+T	
26	M220117130	COPERCHIO PROTEZIO	NE / PROTECTION COVER		
27	M1243020	GUIDA PER MORSETTIE	ERA / TERMINAL GUIDE		
28	M1241010	PIASTRINA / SMALL PLA	λΤΕ		
29	M357767106	INT. DIFF.MAGNETOT. 4	P / GFI/THERMAL INTERRUPTOR		
30	MDS0107106	INT. DIFF.MAGNET. 1P+I	N 16A / GFI/THERMAL INTERRUPTOR		
31	M201308039	COLONNETTA/CONNE	CTING CYLINDER		
32	M357717020	PANNELLO FRONTALE	FRONT PANEL		
35	M000035456A	730 ASSIEME RELE' / RELA	ASSEMBLY	Da/From REV.1-07/11-Del 63/11-	-08/06/11
36	M354567039	SUPPORTO RELE' / REL	AY SUPPORT	Da/From REV.1-07/11-Del 63/11	-08/06/11
37	M000035456A	725 ASSIEME RESISTORE C	ABLATO / WIRED RESISTOR ASSY	Da/From REV.1-07/11-Del 63/11	-08/06/11
38	M354569847	DISSIPATORE / HEAT SI	NK	Da/From REV.1-07/11-Del 63/11	-08/06/11
39	M354569895	RESISTORE CABLATO /	WIRED RESISTOR	Da/From REV.1-07/11-Del 63/11	-08/06/11







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		1) Ricambi	D Ersatzteile		GU
		GB) Spare pa	Irts (E) Tabla de recambios	GE 7000-7500 HSX	3.1
REV.1-09/10	(F Piéces d	e rechange 🔍		
Pos.	Rev. Co	od.	Descr.	Note	
1	M74	44508140	CERNIERA PER FIANCATA		
2	M3	54558113	PARACOLPI GOMMA D.19 H=10 M6		
3	M3	57708010	PANNELLO LATO ASPIRAZIONE		
4	M3	57708020	PANNELLO LATO ALTERNATORE		
5	M30	09509005	GUARNIZIONE	gm	
6	M3	54502022	GUARNIZ. TUBO RIEMP. SERBATOIO		
7	M3	57708015	PANNELLO LATO MOTORE		
8	M3	57701248	SQUADRETTA BLOCC. MACCHINA	SR	
9	M3	54508110	CHIUSURA A LEVA REGOLABILE		
10	M3	57708021	PORTELLO LATO SCARICO		
11	M34	43339601	MANIGLIA		
12	M3	54508186	RACCORDO PROLUNGA x TUBO SCAR.	SR	
13	M3	54507037	CLIP D36 L40		
14	M3	54508066	SQUADRETTA FISS.SETTI INSONOR.		
15	M3	57708220	PARATIA ASPIRAZIONE MOTORE		
16	M1	02302280	GUARNIZIONE (L=MT.1)	am	
17	M3(06418310	GUARNIZIONE (L=MT.1)	am	
18	M3	57702020	SERBATOIO CARBURANTE	4	
19	M3 ⁻	72809875	INDICATORE RISERVA CARBURANTE		
20	M3	57708067	PARATIA SETTO INSONORIZZANTE		
21	M3	57708167	PARATIA SETTO INSONORIZZANTE		
22	M3	57708219	PARATIA ASPIRAZIONE ALTERNAT.		
23	M3	54502310	SIRINGA SCARICO/CARICO OLIO		
Pos.	Rev. Co	od.	Descr.	Note	
1	M74	44508140	LATCH		
2	M3	54558113	PROTECTION RUBBER D.19 H=10 M6		
3	M3	57708010	AIR INTAKE PANEL		
4	M3	57708020	PLATE ALTERNATOR SIDE		
5	M3(09509005	GASKET	qm	
6	M3	54502022	GASKET		
7	M3	57708015	COVER, ENGINE SIDE		
8	M3	57701248	BLOCKING ELEMENT	SR	
9	M3	54508110	ADJUSTABLE LOCK		
10	M3	57708021	EXHAUST PANEL		
11	M34	43339601	KNOB		
12	M3	54508186	EXHAUST PIPE CONNECTOR	SR	
13	M3	54507037	CLIP D36 L40		
14	M3	54508066	NOISE ELEMENT BRACKET		
15	M3	57708220	ENGINE PANEL		
16	M10	02302280	GASKET (L=MT.1)	qm	
17	M30	06418310	PROTECTION GASKET (L=MT.1)	qm	
18	M3	57702020	ENGINE PANEL		
19	M3 ⁻	72809875	FUEL LEVEL FLOAT		
20	M3	57708067	NOISE PANEL		
21	M3	57708167	NOISE PANEL		
22	M3	57708219	ALTERNATOR PANEL		
23	M3	54502310	OIL FILLING		

MC	15 A		CTM 7 357700130	KA 19
©MOSA	REV.0-09/08	(F)		



Pos.	Rev.	Cod.	Descr.	Descr.	Note	
1 2		354521270 354521170	RUOTA PIENA GIREVOLE RUOTA PIENA FISSA	MOVING WHEEL WHEEL		KA
						29/06/01



		107505500	JUNIOLA			
2		330109901	COPERCHIO PER SCATOLA TCM	TCM COVER		
3		102042740	CAPPUCCIO	САР		
4		1302040	SPIA 12V	WARNING LIGHT 12V		
5		102013290	COMMUTATORE	COMMUTATOR		
6		107302460	STARTER A CHIAVE	STARTER KEY		
7		33010C060	GRUPPO CAVI TC	TC CABLE KIT	TCM5D-6	
8		6062050	ТАРРО	САР		
9		33020C060	GR.CAVI TCM	TCM CABLE KIT	TCM22-40	
10	Α	101091830	PULSANTE DI STOP	BUTTON, STOP	TCM15	
11	Α	101091840	CAPPUCCIO	САР	TCM15	
12	Α	93016C060	GRUPPO CAVI TCM	TCM CABLE KIT	TCM15	
14	Α	307457055	INTERRUTT. ACCENSIONE A CHIAVE	STARTER SWITCH	TCM40	8
15	Α	930159901	COPERCHIO PER SCATOLA TCM	TCM COVER	TCM15	2/00
						10/0



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