



Telair

GENERATORS



ENERGY 4000B ENERGY 4000GAS

***USER'S OPERATING INSTRUCTION
AND INSTALLATION MANUAL***



ENGLISH

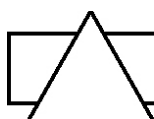
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**WARNING****INFORMATION**

When the generator remains idle for at least three weeks, old unleaded petrol sediments could build up inside the carburettor. These sediments can seriously damage the engine and it is therefore **COMPULSORY** that the carburettor be completely emptied prior to a long period of non-use: do this by turning off the fuel tap and running the generator set until it stops.

It is also essential that you never use old unleaded petrol, as it can undergo chemical modifications and seriously damage the engine.

Failure to observe these instructions automatically renders the **WARRANTY NULL AND VOID.**



Via E. Majorana , 49 48022 Lugo (RA) ITALY

"CE" COMPLIANCE STATEMENT

Under Machine Directive 89/392/EEC, attachment II A

We hereby represent that the generator-set, the data concerning which appear below, has been designed and built to correspond to the essential safety and health requirements laid down by the European Directive on Machine Safety.

This statement shall not be valid any longer if any changes are made on the machine without our written approval.

Machine: GENERATOR-SET

Model: ENERGY 4000 B / 4000 GAS

Serial number:

Directive of reference:

Machine Directive (89/392/EEC) in version 91/31/EEC

Low Voltage Directive (73/23/EEC)

Electro-magnetic Compatibility (89/336/EEC) in version 93/31/EEC

Harmonised standards applied, especially: EN 292-1; EN 292-2; EN 60204-1

DATE.....20/03/2008.....

THE PRESIDENT



1 FOREWORD



MANUAL

Refer carefully to this manual before performing any operation on the air conditioner.

1.1 Purpose and scope of this manual

This manual has been drawn up by the Manufacturer in order to provide basic information and instructions for performing every operation for servicing and using the generating set in a proper and safe manner.

It is an integral part of the equipment of the generating set, must be kept with care throughout the life of the same, and must be protected against any agent which could damage it.

It must follow the generating set if the latter is installed on a new vehicle, or if its ownership changes hands.

The information in this manual is addressed to the personnel which must install the generating set, and to all those involved in its maintenance and use.

This manual sets out the purpose the machine was designed for, and contains all the information required to guarantee that it is used in a safe and proper fashion.

Constant attention to the instructions laid down here will guarantee the safety of the user, economy and longer life of the machine.

To facilitate reference, this manual has been subdivided into chapters which specify the main notions; for quick consultation, refer to the table of contents.

The most important parts of the text are in bold letters and preceded by symbols described below.

Please read the contents of this manual and of the reference document carefully. This is the only way to ensure that the air conditioner will work properly through time and be reliable, while safeguarding people and things.

Note: *The information contained in this publication was correct at the time it went to print, but may be modified without advance notice.*

1.2 Symbols and Definitions

"Graphic safety symbols" have been employed in this booklet to identify different levels of danger or important information.



DANGER

This means that you must pay attention to avoid serious consequences which might lead to serious accidents or damage the health of the operators.



WARNING

This means a potentially hazardous situation which could lead to accidents or to damage to property.



INFORMATION

This calls the user's attention to a potentially dangerous situation which could cause malfunction or damage to the machine.

The drawings are only provided by way of example.

Even though the machine you actually have may differ from the illustrations contained in this manual, safety and information about the same are guaranteed.

The manufacturer, as part of his policy of constant product development and updating, may effect changes without providing advance notice.

1.3 General Information

The **ENERGY** generating set has been designed for installation on vehicles. It can deliver power at a voltage of 230 VAC 50 Hz.

The **ENERGY 4000 B** models must be fed with lead-free petrol. The **ENERGY 4000 GAS** models with GPL.

In order to achieve a low noise level, the **ENERGY** series generating sets are provided with internally insulated sound-proofing boxes.

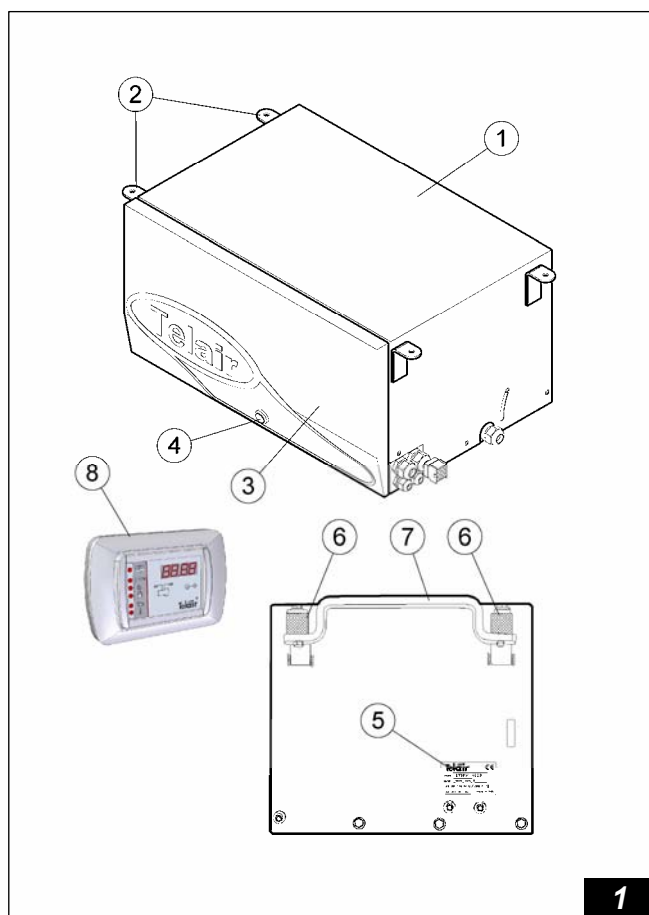
They can be accessed easily in order to perform maintenance work, and are provided with a remote control panel which can be installed inside the vehicle.

The generating sets can be connected to the tank of the vehicle as long as the fuel type is compatible. Otherwise, install a special tank which can be supplied as an option.

2 GENERATING SET IDENTIFICATION DATA

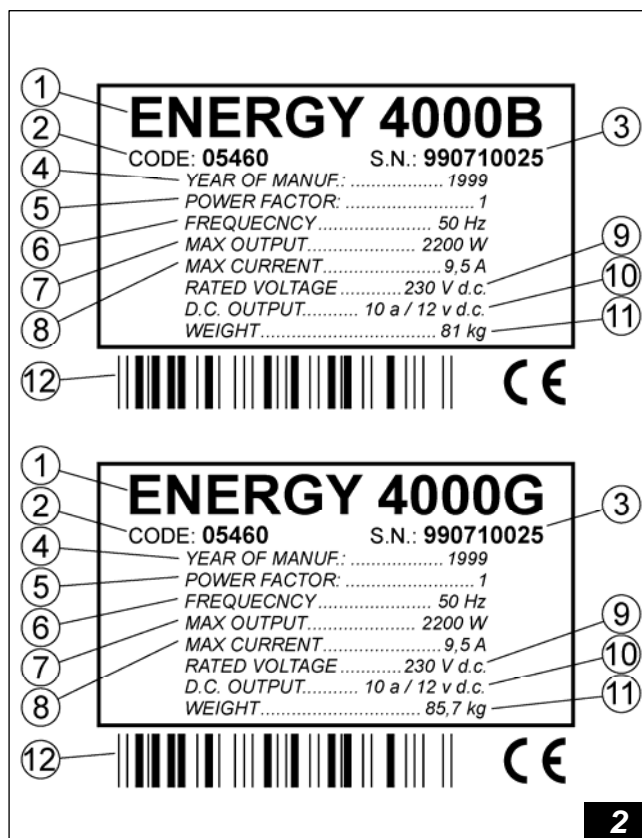
2.1 Components (Fig. 1)

- 1 Sound-proofing box
- 2 Supporting brackets
- 3 Access door
- 4 Access door closure
- 5 Technical features sticker
- 6 Anti-vibration support
- 7 Anchoring bracket
- 8 Electronic control panel



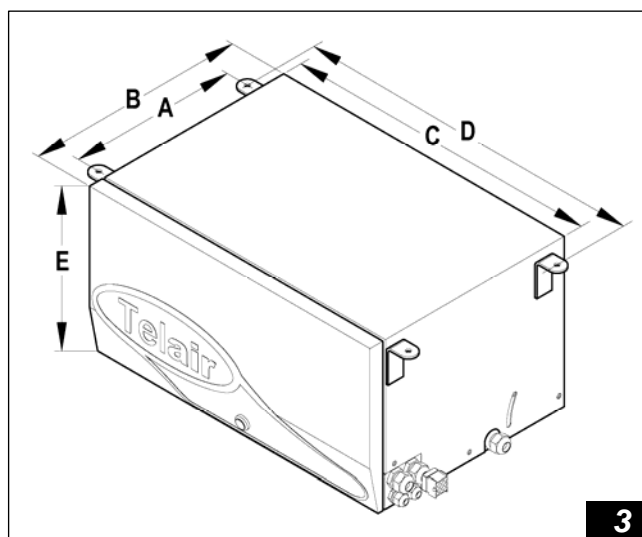
2.2 Identification plate (Fig. 2)

- 1 Generating set model
- 2 Model code number
- 3 Serial number
- 4 Date of manufacture
- 5 Power factor
- 6 Frequency
- 7 Maximum electric power
- 8 Maximum current
- 9 Rated voltage 230 V AC
- 10 Current delivered at 12 V DC
- 11 Weight
- 12 Bar code



2.3 Dimensions

Figure 3 shows the dimensions of the generating sets.



	A	B	C	D	E
mm	295	463	665	723	346

2.4 Fiche technique

		ENERGY	ENERGY
ENGINE		4000 B	4000 GAS
Type		Single cylinder, 4 stroke petrol, head valves, air cooling	Single cylinder, 4 stroke GPL, head valves, air cooling
Engine		Yamaha MZ 250	Yamaha MZ 250 GAS
Displacement	cm ³	251	251
Bore x Stroke	mm	70 x 57	70 x 57
Consumption		2,0 l/h	1,5 kg/h
Fuel supply		Lead-free petrol	LPG or Propane pure when it is cold
Ignition system		Electronic	Electronic
Spark plug		BPR4ES (NGK)	BPR4ES (NGK)
Oil sump capacity	litres	1,0	1,0
Speed governor		Counter weight	Counter weight
ALTERNATOR		4000 B	4000 GAS
Type		Synchronous, single phase, self-adjusting, two poles, no brushes	Synchronous, single phase, self-adjusting, two poles, no brushes
Max power	kW	3,8	3,8
Continuous power	kW	3,3	3,3
Voltage/ Frequency	V/Hz	230 / 50	230 / 50
Continuous current output	A / Vdc	10 / 12	10 / 12
Rotor insulation class		H	H
Stator insulation class		F	F
Refroidissement		Centrifugal fan	Centrifugal fan
GENERATOR		4000 B	4000 GAS
Overall weight	kg	81	85,7
Dimensions (Lu X La X H)	mm	665 x 463 x 346	665 x 463 x 346
Starting		Electrical / Manual	Electrical / Manual
Fuel supply		Supply pump to depression	Pressure reducer
Noise level		60 dBA _ 7 m	60 dBA _ 7 m
Operation Hours	h	7	7

3 SHIPPING, HANDLING, STORAGE

3.1 Storage

The generating set is protected during shipping by suitable carton packaging and a wooden base. It must be stored horizontally, in a covered, dry and ventilated area.



INFORMATION

When using the generator in cold environments, please remember that the lower the temperature (down to a temperature limit of – 15°C), the higher the percentage of propane gas which is recommended

! INFORMATION Do not turn the package upside down. The right position is the one shown by the symbol printed on the package (↑).

3.2 Weight

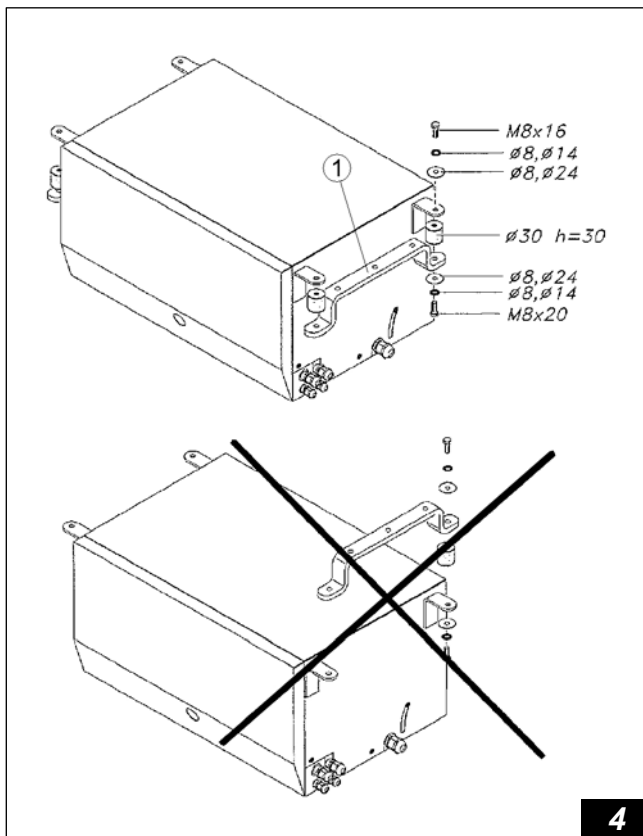
Total weight including packing:
ENERGY 4000 B: 81 kg
ENERGY 4000 GAS: 85,7 kg

3.3 Handling

The generating sets, complete with their packaging, can be moved using common lifting and transport vehicles.

The boxes are provided with spacers in order to allow for the introduction of transpallet forks.

! DANGER During lifting and transport, comply with accident prevention and safety regulations. Use lifting and transport equipment with a capacity greater than the load to be lifted.



4

4 INSTALLAZIONE

4.1 Preliminary information

MANUAL Before installing the conditioner, it is absolutely necessary to read these instructions, in order not to make any mistakes during installation.

WARNING The generator must be installed so as to prevent water seeping directly into the alternator through the inlet holes; it must therefore be protected.

Improper installation of the generating sets can cause irreparable damage to the equipment and compromise the safety of the installation engineer.

Should the generating sets be installed in a manner which does not comply with the instructions in this manual, the Manufacturer shall be held harmless for malfunctions or for the safety of the generating set, under D.M. 89/392/EEC. Furthermore, he shall be held harmless for any damage or injury to people or things.

! DANGER Installation must be performed by qualified and properly trained personnel only.

4.2 Instructions for fastening the generating set

The **ENERGY 4000 B / 4000 GAS** generating sets are provided with anchoring brackets with extra vibration dampers (Fig. 4, Ref. 1) and a fuel filter to be fitted along the generator feeding pipe. The brackets allow for hanging assembly. This kind of assembly provides the following advantages: less room taken up, quick installation, easy access for routine and unscheduled maintenance.

Make sure that there is enough room around the hood of the generating set to allow cooling air to pass; also leave 20 mm free room between the hood and the surrounding parts.

Should the generating set air intake be behind a wheel of the vehicle, care should be taken to prevent water from being sprayed into the generating set by the wheel when raining.

4.3 Wiring connection instructions

To connect the loads to the generating set, use a three-pole power cable working according to current laws. The proper cross-section is shown on Table 1. To connect the line for picking up 230 Volt current, the generating set is provided with a special terminal board (Fig. 5 ref. 1) to which the cables must be connected.

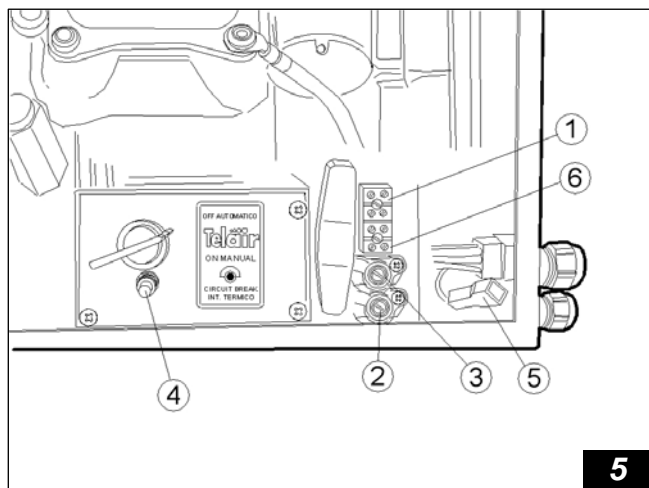
Use the cable presser (Fig. 7 ref. 2) to fasten the cable and prevent water from getting inside the generating set.

The wire for earth connection of the generating set must be connected to the relevant terminal outside the sound-proofing box (Fig. 7 ref. 1).

Although the generating set is equipped inside with a thermal switch to cut off power delivery in case of overload or short circuit (Fig. 5 ref. 4), it is best to provide a magnetic cutout inside the switchboard of the vehicle, able to cut off power delivery to the users when current absorption exceeds 9.5 Amp in the case of **ENERGY 4000 B / 4000 GAS**.

Should the safety thermal switch trip in the generating set, to restore closure of the circuit and delivery of current, press the push-button.

⚠ DANGER *Carefully check the position of the connection of the line for picking up 230 Volt current. Wrong connection could damage the generating set irreparably or create dangerous short circuits.*



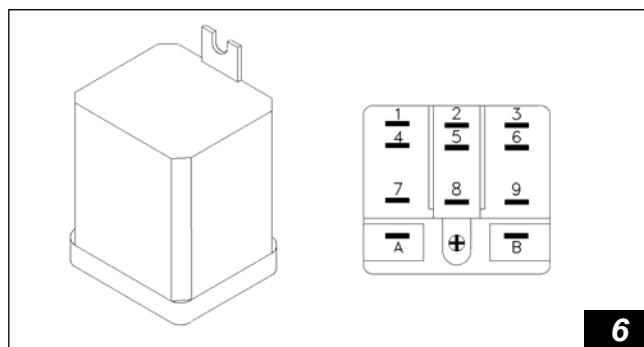
⚠ DANGER *The wiring connections to the generating set must be performed by qualified personnel.*

A relay or change-over switch (accessory code 05423) (Fig. 6) must be installed on the vehicle

wiring system. This serves to insulate the generating set when it is connected to an outside power mains.

Connect the relay proceeding as follows:

- Connect both wires of the 230 V line of the generating set to the PINS 1-3.
- Connect the user line to the PINS 7 - 9
- Connect the outside line to the PINS 6 - 4
- Bridge the PINS 4 - A
- Bridge the PIN 6 - B.



4.4 Battery connection

To start up the generating set, you must connect to the battery of the vehicle, using a sheathed power cable to current regulations, with the cross-section shown on Table 1.

To this end, the generating set is provided with two special terminals used to connect the positive and negative pole of the battery.

Connect the cable of the positive pole (red cable) to the terminal (Fig. 5 ref. 3) and the cable of the negative pole to the terminal (Fig. 5 ref. 2).

The cable of the negative pole must be of the same cross-section as the positive cable, and must be connected to the chassis of the vehicle. Make sure there is a good contact; remove any paint or rust from the contact surface, and protect the connection using grease.

The capacity of the battery to be used for starting up must not be less than **30 A/h**.

The soundproofing box is equipped with two cable pressers used to let through the battery connection cables (Fig. 7 ref. 3).

INFORMATION Always fit a 70 A fuse onto the positive cable connecting the generating set to the positive pole of the battery.

230 Volt AC Leng. < 4 m	230 Volt AC Leng. > 4 m	12 Volt CC Leng. < 6 m	12 Volt CC Leng. > 6 m
2,5 mm ²	4 mm ²	10 mm ²	16 mm ²
230 V LINE CONNECTION		BATTERY CONNECTION	

TAB. 1

4.5 Battery charger

The **ENERGY 4000 B/4000 GAS** generating sets are provided with a battery charger which can deliver a 10 Amp current at 12 V.

You can use it to recharge the start-up battery of the generating set or for the service batteries of the vehicle.

To use the battery charger, connect the positive pole of the battery you intend to recharge - via a 2.5 mm² cross-section cable - to the proper terminal (Fig. 5 ref. 6) and the negative pole to the terminal on Figure 5 ref. 2.

INFORMATION The generating set does not automatically recharge the battery used for starting up unless it is connected to the battery charger.

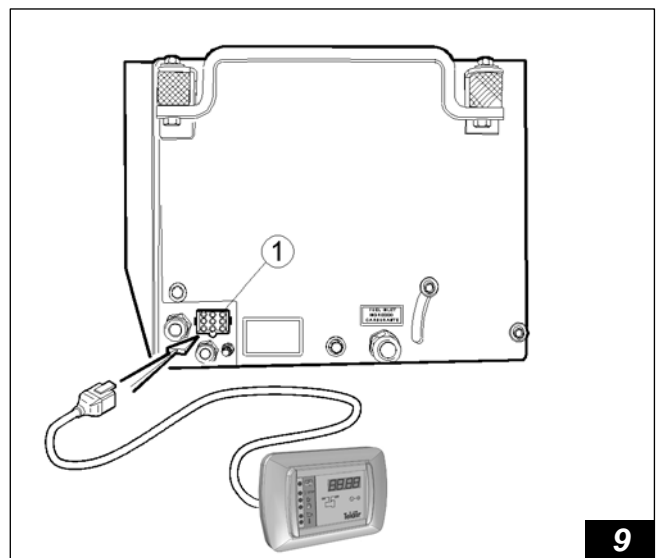
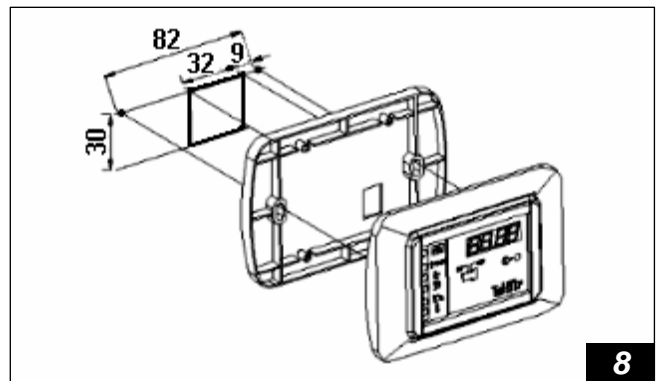
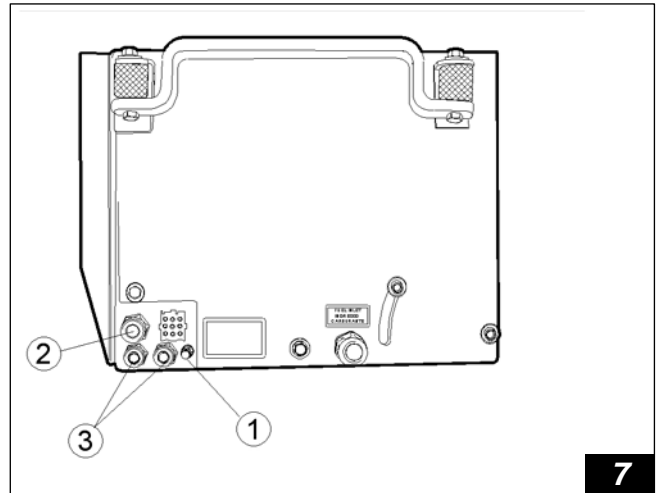
4.6 Electronic control panel connection

Choose the position you want inside the vehicle and make a rectangular hole, 30 x 32 mm.

Fasten the electronic control panel (Fig. 8) using self-tapping screws measuring 3 x 20 mm.

Use slight pressure to fasten the plastic frame.

The electronic control panel is provided with a 5 metre long connecting cable which must be connected properly to the generating set using the relevant connector (Fig. 9 ref. 1).



4.7 Fuel tank installation instructions For ENERGY 4000 B only

The fuel tank (Fig. 10) must be located so the fuel hose (Fig. 12 ref. 2) is as short as possible. Nor must the cross-section of the hose be diminished by squeezing, bending or crushing. We also suggest you install the tank at the same height as the generating set; even if you place it at a lower position, there must never be more than 20 cm level difference (Fig. 10).

Should it not be possible to respect this maximum level difference between the fuel tank and the generating set, you can install an electric fuel pump which comes as an option (code 05469), which can easily overcome level differences of over one metre.



DANGER

Never place the fuel tank near heat sources; protect it from any outside infiltration of water.

To connect the tank to the generating set, use a rubber hose suitable for lead-free petrol, having an inside diameter of 5 mm, and place a fuel filter in between (Fig. 10 ref. 1).

The tank needs a breather pipe. For this purpose, a pipe has been connected to the suitable rubber holder (Fig. 11 ref. 1). Make sure this follows an upward line (Fig. 11 ref. 2) without any curves (Fig. 11 ref. 3).

Dealers provide two different models of fuel tanks, which can be used for every installation requirement.

- The tank code 05421 (Fig. 12) (capacity 16 litres) is equipped with a bracket (Fig. 12 ref. 1) and two stainless steel clamps (Fig. 12 ref. 6) which can be used for installation on the vehicle.

The pipe union (Fig. 12 ref. 3) is provided with a closing cap. If necessary, in order to put fuel into the tank, you can use a rubber hose, able to stand up to lead-free petrol, having a 50 mm inside diameter, in order to connect the tank to a filler on the wall (Fig. 14).

- The tank code 05466 (Fig. 13) (capacity about 15 litres) was designed to be installed in various positions, in order to make the best use of available space on the vehicle and to permit connection of the filler (Fig. 14) at two different places (Fig. 13 ref. 1 and 2). This gives the installer an opportunity to choose from time to time the most suitable solution

depending on the kind of installation. The fuel cut-off cock (Fig. 13 ref. 3) can also be screwed onto two different threaded pipe fittings (Fig. 13 ref. 4), to be used depending on the position of their installation.

To anchor the tank to the vehicle, use the special threaded inserts (Fig. 13 ref. 5) as needed.

The tank vent must be connected to the filler via a rubber hose as shown on Figure 13 ref. 6.

4.8 Fuel reserve

For ENERGY 4000 B only

Both models of fuel tanks are provided with a cock with an electrical reserve indicator (Fig. 12 ref. 4). To connect this component electrically, use an electric cable to connect the connector located on the fuel tank (Fig. 12 ref. 5) to the connector on the machine (Fig. 5 ref. 5).

The fuel reserve available on either tank is about 4 litres.

The warning light on the control panel (Fig. 15 ref. 1) will light up to indicate when the fuel level inside the tank has gone below the reserve level.

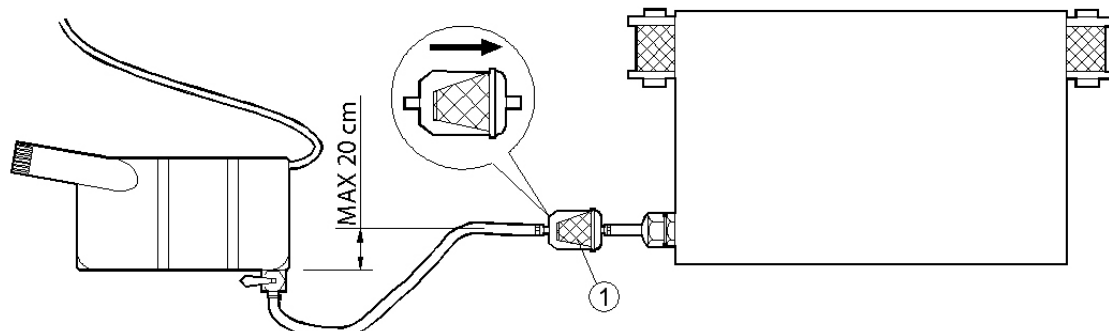
4.9 Connecting the fuel pump

For ENERGY 4000 B only

Should it not be possible to respect the maximum permitted level difference between the tank and the generating set, one can install an electric pump (code 05469) to overcome this difference.

It is very easy to install the fuel pump. Simply place it between the tank and the generating set, connecting it to the fuel piping.

We suggest you place the pump as close as possible to the tank (a pipe for returning the fuel to the tank is not required).

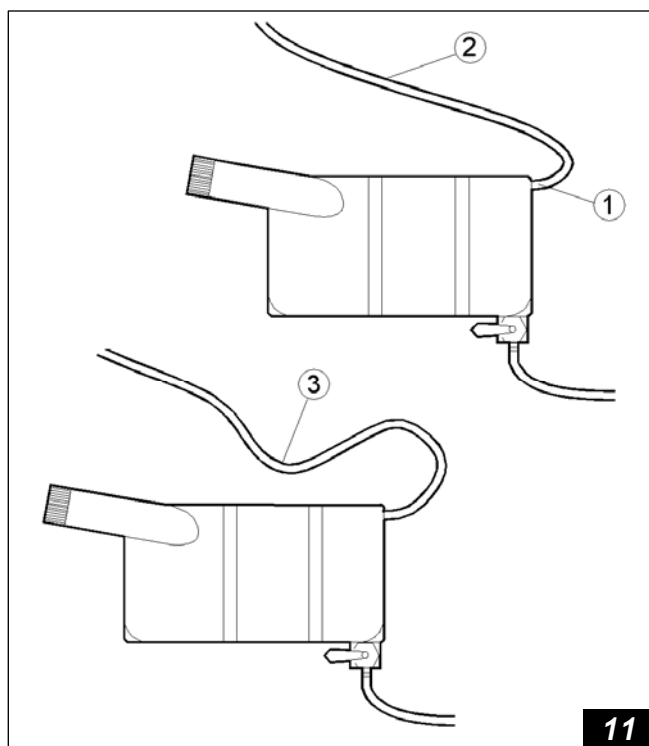


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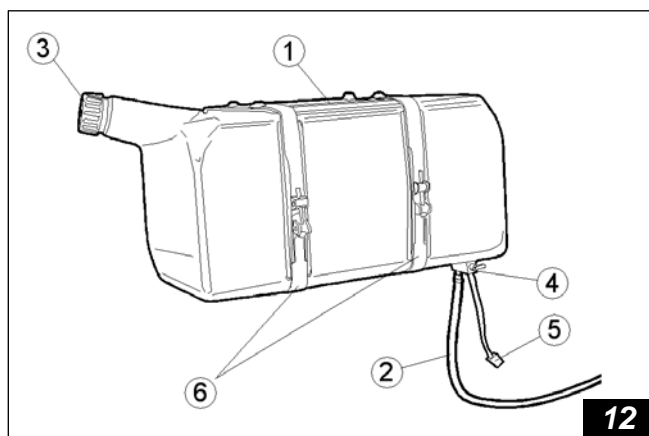
To power the fuel pump, proceed as follows:

- connect the negative pole of the pump to the relevant connector inside the generating set (Fig. 16 ref. 1);
- connect the positive pole of the pump to the positive terminal of the battery (Fig. 5 ref. 3).

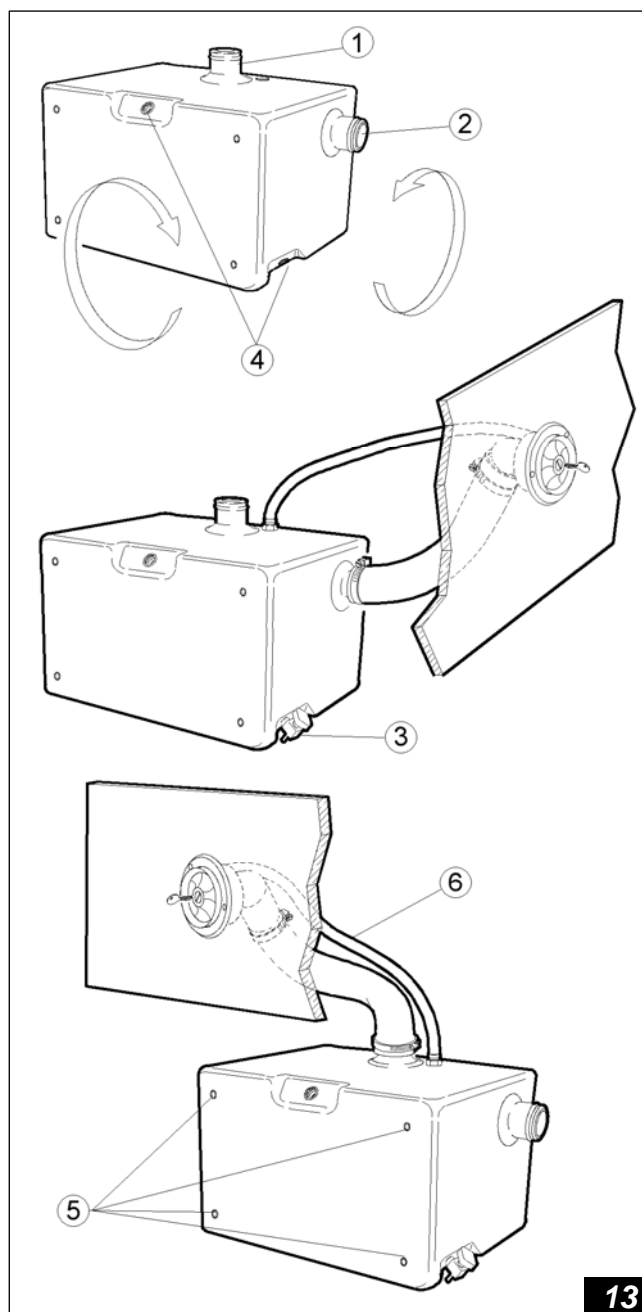
To perform the power connections, use a two-pole cable with a cross-section of at least 1 mm².



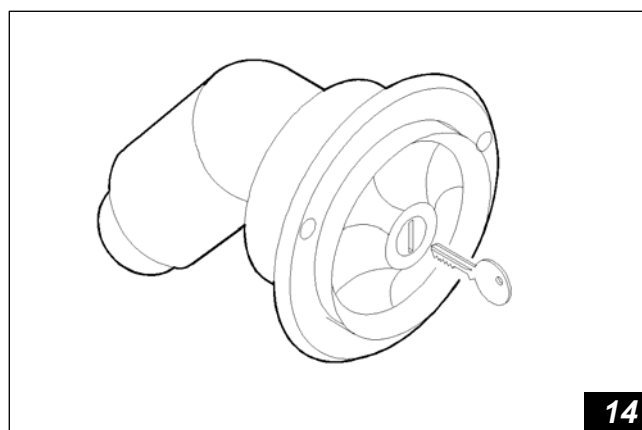
11



12



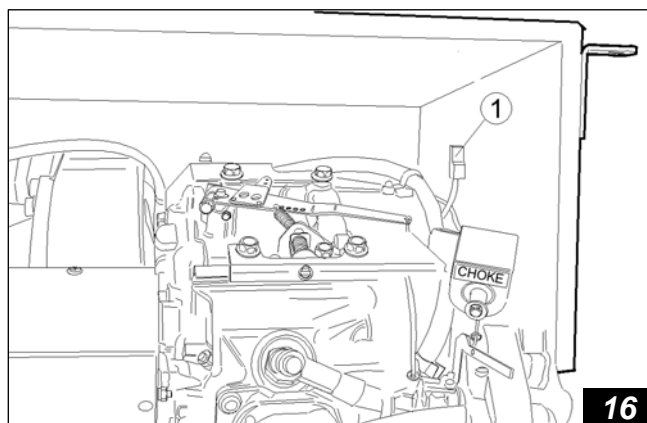
13



14



15



16

4.10 Connecting the additional silencer

To further cut down the sound level of the generating set, one can install an additional silencer on the outside (code 05468).

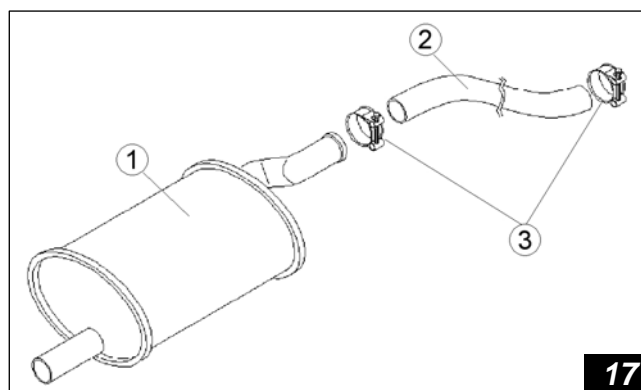
The additional silencer kit (code 05422) consists of a silencer (Fig. 17 ref. 1), a stretch of flexible steel hose (Fig. 17 ref. 2), two clamps to fasten the connections (Fig. 17 ref. 3). To connect the silencer to the generating set, first take the spark quenching unit (Fig. 18 ref. 1) off from the terminal of the exhaust muffler inside the generating set and use the clamp to fasten it to the terminal of the outside silencer (Fig. 20 ref. 1).

Use a pair of pliers to take off both flaps (Fig. 19 ref. 1) closing the slot especially created to let through the flexible pipe connecting the muffler inside the generating set to the outside silencer. Fasten the flexible pipe to the terminal of the muffler and of the silencer as shown on Fig. 20. The silencer is provided.

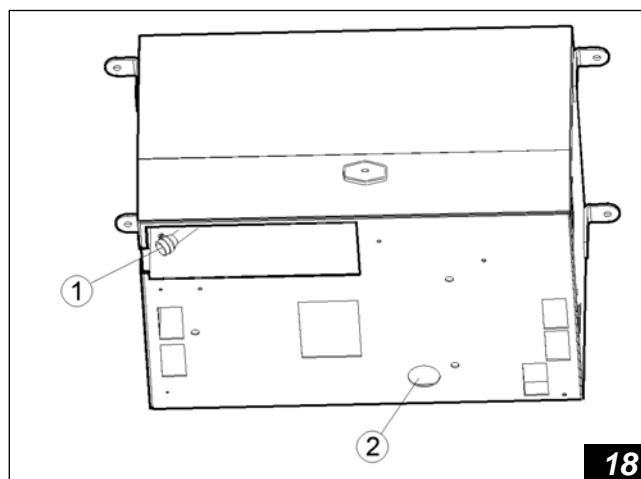


WARNING

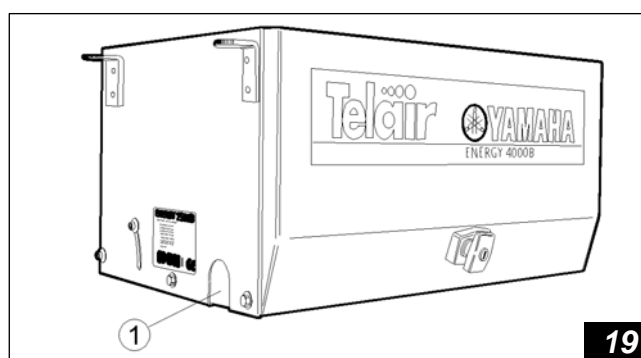
Do not use silencers which were not provided by Telair. Silencers of the wrong size can damage the engine.



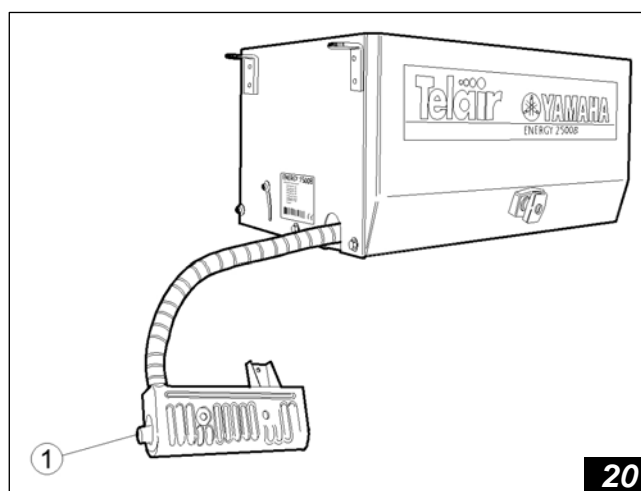
17



18



19



20

5 OPERATING INSTRUCTIONS

ENERGY series generators are made from petrol or gas internal combustion engines connected to an alternator that can produce both alternating and direct electrical current. The generating sets are assembled inside a steel plate casing, insulated and sound-proofed using special sound absorbing materials.

The fuel is fed to the endothermic engine (only on petrol model) by a pump assembled standard on the generating set.

5.1 Machine safety

The generating sets come with perfectly sealed casings, so there is no danger of contact with any mobile parts, with high temperatures or with live cables.

The doors open with a lock and key. The keys must not be left within the reach of children or inexperienced people.



The generating sets must be used only and exclusively with their doors shut.

Remove any flammable substance from near the generating set, for example: petrol, paint, solvents, etc.

Make sure the hot parts of the generating sets are not in touch with any easily flammable material.

Never fill up the fuel tank while the generator is running.

Never touch the generating sets or the wiring connections with wet hands.

Never replace the fuses or the thermal switches using others having a higher amperage.

Should you have to check any electrical part, this must be done only with the engine turned off and by specialised personnel.

The generating sets were made in compliance with the safety standards listed in the statement of compliance.

6 USING THE GENERATING SET

6.1 Starting up the generating set

The generating sets are provided with a remote electronic control panel which allows you to perform starting up / turning off operations and to check their running conditions.

The elements making them up are:

- 1 ON/OFF switch
- 2 Display
- 3 High temperature indicator
- 4 Engine minimum oil level indicator
- 5 Startup failed
- 6 Generator running
- 7 Engine oil change indicator
- 8 Petrol reserve indicator
- 9 Display changeover switch
- 10 Reset

Position the startup switch (Fig. 21 Ref. 1) on the "ON" position. The word "WAIT" will appear on the display for 8". When these have run out, the electronic control panel will start the first automatic procedure for starting up the generator set. If the engine starts up at the end of this phase, then "generator running" indicator (Fig. 21 ref. 6) will start to flash.

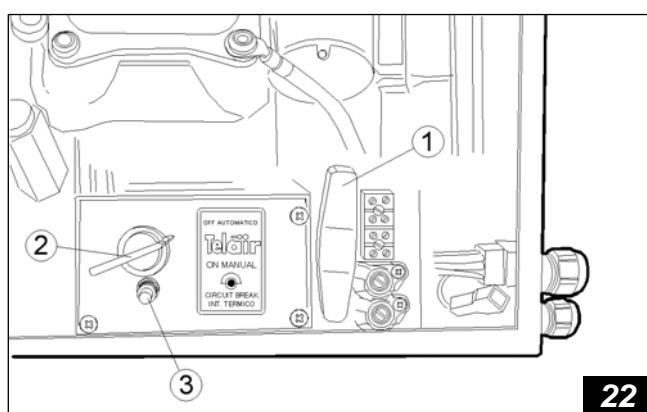
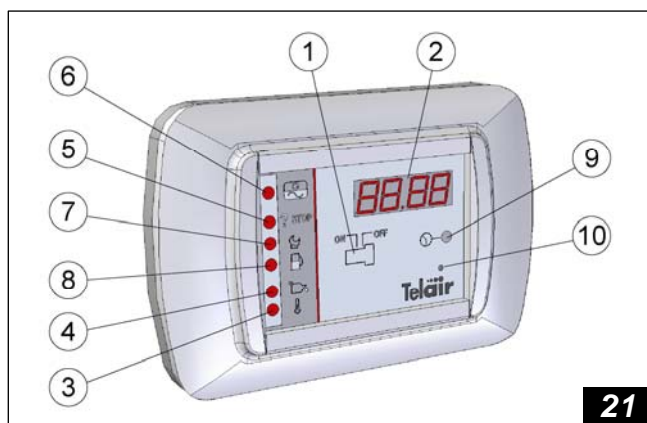
Should the engine not start up, this automatic procedure will be repeated up to 4 times. If the engine has not started up yet at the end of this complete cycle, the "startup failed" indicator (Fig. 14 ref. 5) will light up to say that the generating set has failed to start up.

If only the "startup failed" indicator (Fig. 21 ref. 5) stays lit, you can repeat the procedure several times.

If the generating set has not started up at all even after many attempts, you will have to get in touch with the After-sales service.

Only on petrol model, should the battery have run out, you can start the generating sets by hand, using the handle of the engine coil winding (Fig. 22 ref. 1) after having set the selector switch in position "1" (Fig. 22 ref. 2) and the electronic control panel in position "ON". Once you have started the engine up manually, put the selector switch back in position "0" (Fig. 22 ref. 2).

The start-up battery must never be disconnected: in fact, the electronic control panel would no longer be fed, and this would prevent the generating sets from working.



6.2 Turning the generating sets off

To stop the generating set, place the "ON/OFF" switch in its OFF position (Fig. 21 ref. 1).



DANGER

The generating set is provided with an internal combustion engine; therefore the fuel used is highly flammable. The exhaust gases are conveyed under the hood; their temperature, inevitably, is quite high, even though they are mixed with cooling air.

Do not touch the hood areas near the exhaust, and do not put your hands or other objects inside the hood.

6.3 Information on forbidden use



DANGER

The generating set must be installed and used only by personnel qualified and authorised according to the manufacturer's instructions. The generating set must be used only and exclusively to produce electrical power on vehicles provided with an electrical system made according to standards and depending on the quantity of power delivered.

6.4 Suggestions

To make the best use of the generating sets, remember that even small overloads - if they last for some time - will make the temperature cut-off contact open (Fig. 22 ref. 3).

During the running-in period, do not subject the new engine to a load higher than 70% of the rated load, at least for the first 50 running hours.

6.5 Control and alarm functions (Fig. 21)

2 Display: when the generating set has started up, the total running hours will be displayed. Press the key (Fig. 21 ref. 9) to display the partial running hours of the generating set after the last change of the engine oil.

3 High temperature indicator: this warning light will light up when the temperature of the generating set goes over its safety value; the engine will stop at the same time.

4 Engine oil minimum pressure indicator: this warning light will light up to indicate that the level of oil in the engine has gone below the minimum level. A safety system will turn the engine off automatically in order to prevent breakages.

5 Engine startup failed: this warning light will light up to indicate that the generating set has not started up, after all four attempts at starting up have failed.

7 Change oil: this warning light will light up when the engine has reached 100 running hours after the last change of oil. Every time the oil is changed, the After-sales service must reset the timer at zero.

8 Petrol reserve: this warning light will light up when the fuel level inside the extra tank has gone below its reserve level (about 4 litres)

9 Display changeover switch: press this to display the running hours which have elapsed since the last time the engine oil was changed.

10 Reset: When the display shows any characters without logic, the panel is to be reinitialised. Press the Reset key and, holding it down, switch on the panel. When 4 zeroes (0000) are shown on the display, the panel is reinitialised.

6.6 Initialising the GE panel and turning off alarms

When you use the generator set, alarm signals may light up which refer to checking the oil of the unit. After having checked the oil, to put an end to the alarms proceed as follows:

Alarm: the red maintenance lamp is flashing.

Reason: 50 hours have gone by since oil was last changed, and you must check its level.

How to turn it off: once you have checked the level, press the partial counter push-button (fig. 21 ref. 9). Keep it pressed, then turn the panel on and release the push-button when the unit has started up.

Alarm: the red maintenance lamp is lighted.

Reason: 100 hours have gone by since oil was changed. The oil must be replaced.

How to turn it off: Once you have changed the oil, turn the panel on and make sure the generating set is running. Now press the push-button hidden under the bottom right (fig. 21 ref. 10), then release it at once. wait two minutes before turning the unit off.

Under special conditions, the data contained in the micropocessor inside the panel can undergo alterations. This may be because the battery is very low, or because the cables used to connect the battery to the unit have too small a cross-section. In this case, the alteration of the data may prevent the unit from running. In order to make the unit work again properly, proceed as follows:

Alarm: meaningless characters appear on the display.

Reason: malfunction due to low voltage during start-up (battery very low, cable cross-section too small). Reinitialise the panel.

How to turn it off: press the hidden push-button; keep it pressed while turning on the panel. Release the push-button when 4 zeros (0000) appear on the panel The panel has been reinitialised.

7 MAINTENANCE INSTRUCTIONS

INFORMATION Use only original spare parts. The use of spare parts of non-equivalent quality may damage the generating set.

Routine control and adjustments are of the essence in preserving a high level of performance. Routine maintenance also ensures long generating set life.

! DANGER Before performing any check or maintenance operation on the generating set, turn the selector switch (Fig. 22 ref. 2) to the position 1 "manual" in order to avoid accidentally starting the generating set up.

7.1 Maintenance list

See table at the bottom of the page.

7.2 Maintenance not requiring specialised personnel

To perform this kind of operation, it will be necessary to open the door of the generating set. The following precautions must therefore be taken:

- 1) The generating set must not be running, and all its parts must be cold
- 2) Let the generating set cool off.
- 3) Turn the selector switch to the position "1" (manual) (Fig. 22 ref. 2)

N.B. Remember to put the selector switch back at "0" (automatic) when you have finished the operation.

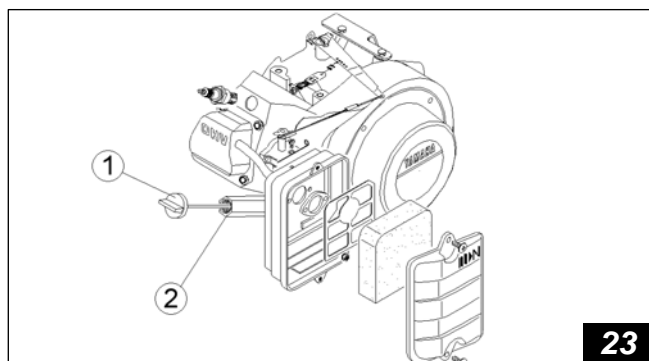
7.3 Checking the engine oil level

ROUTINE MAINTENANCE SCHEDULE		Every use	Every month or 20 h	Every 6 month or 100 h	Every year or 300 h
Engine oil	Inspection	•			
	Change		• (2)	• (2)	
Air filter	Cleaning		(1) • (2)		
Spark plug	Inspection-cleaning			• (2)	
Valve adjustment	Check-adjust				• (2)
Tank and fuel filter.	Cleaning				• (2)
Engine r.p.m.'s or frequency	Adjust		• (2)		
Vibration damper suspension points	Check				• (2)
Fuel pipes	Check (replace if necessary)	Ogni due anni			

NOTES: (1) Clean more frequently if you use it in a very dusty environment.

(2) These operations must be performed by specialised personnel only

- Unscrew the engine oil level reference cap and clean the dipstick (Fig. 23 ref. 1).
- Put the dipstick back in without screwing.
- Take the dipstick out again, and make sure that the engine oil level is between the two notches (min and max). Should the oil level be below the minimum notch, restore the level of the oil with the kind of motor oil advised (refer to the engine user and maintenance manual).
- Put the dipstick cap back on and screw tightly.



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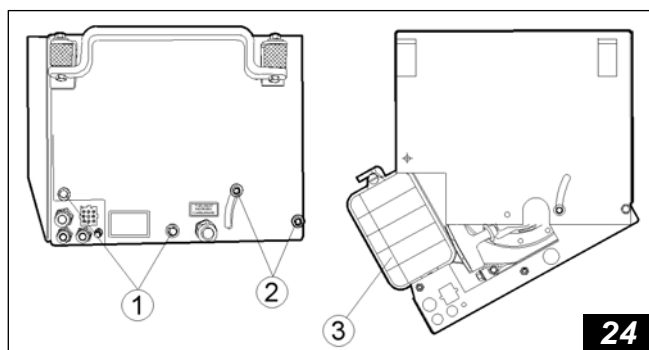
WARNING Do not exceed the maximum level, since this could cause malfunction of the fuel pump and hence of the generating set.

INFORMATION Every engine oil level checking operation must be performed with the generating set in a perfectly horizontal position.

7.4 Maintenance operations calling for qualified personnel

With certain maintenance operations, it is possible to lower the engine-alternator unit, removing the hexagonal-headed screws (Fig. 24 ref. 1) and loosening the two studs (Fig. 24 ref. 2).

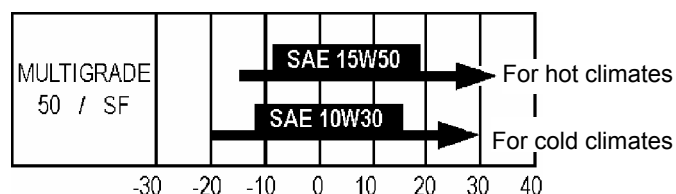
This will make it easier to access all the inside parts of the generating set for unscheduled maintenance or repair operations.



24

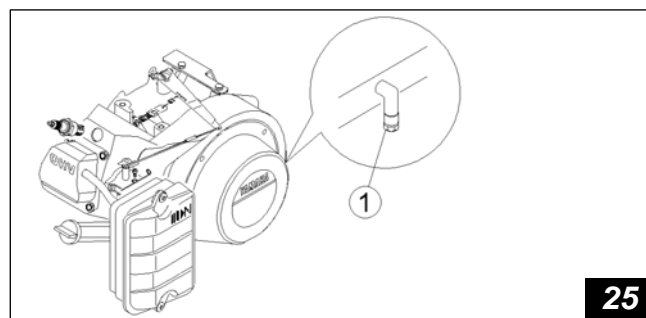
7.4.1 Engine oil replacement

Use multigrade detergent oil for four-stroke petrol engines having a SAE viscosity suited to the climate the generating set is working in (see table and detailed instructions shown on the engine use and maintenance manual).



To make it easier to take the engine oil out, it is best to heat the engine for 3 - 5 minutes; this way, the oil will be more fluid and emptying will be quicker and more complete.

Loosen the special cap on the oil pan by a few turns, and let all the oil inside run out into a collection container (Fig. 25 ref. 1).



25

When this has been done, screw the cap back on again and restore the oil level inside the engine pan, using the filler hole (Fig. 23 ref. 2).

For the quantity of oil to be fed into the pan, see the following table (Table 2).

MOD.	Quantity of oil (litres)
Energy 4000 B / 4000 GAS	1,0

Tab. 2

! DANGER

- Hot oil can scald.
- Running the engine when the oil level is too low can damage it seriously
- Check the oil level when the engine has been turned off.

INFORMATION Used oil must not be disposed of in the open, but handed over to companies specialising in disposal and/or recycling according to the laws current in the

country where such operations are performed.

7.4.2 Air filter maintenance

INFORMATION *A dirty air filter will reduce the air flow to the carburettor. To prevent carburettor malfunction, check the air filter regularly. If the engine is used in an especially dusty environment, we suggest you check it every time before starting up.*

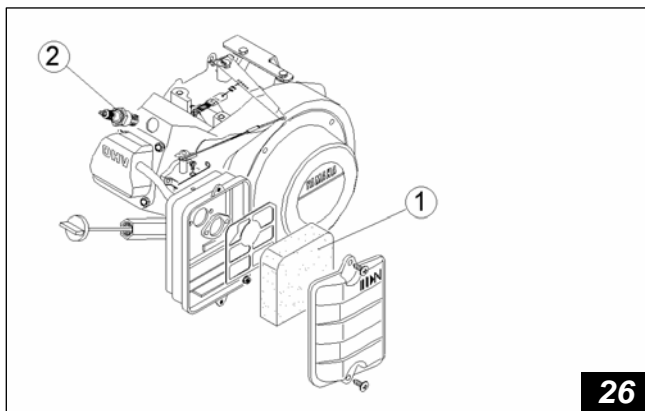
! DANGER *Never use Diesel fuel or solvents with a low evaporation point for cleaning the air filter cartridge.*

Never run the engine without the air filter; the engine would wear down quickly due to dust in the air.

To access the filter cartridge, remove the air filter closing lid (Fig. 24 ref. 3) after having unscrewed both screws which keep it attached to the air filter box.

Take out the cartridge (Fig. 26 ref. 1) and wash it using a neutral detergent solution and rinse carefully. Let the filter cartridge dry out completely, then dip it in clean motor oil. Squeeze out carefully in order to remove excess oil.

Replace the cartridge only if it should be visibly no longer whole.

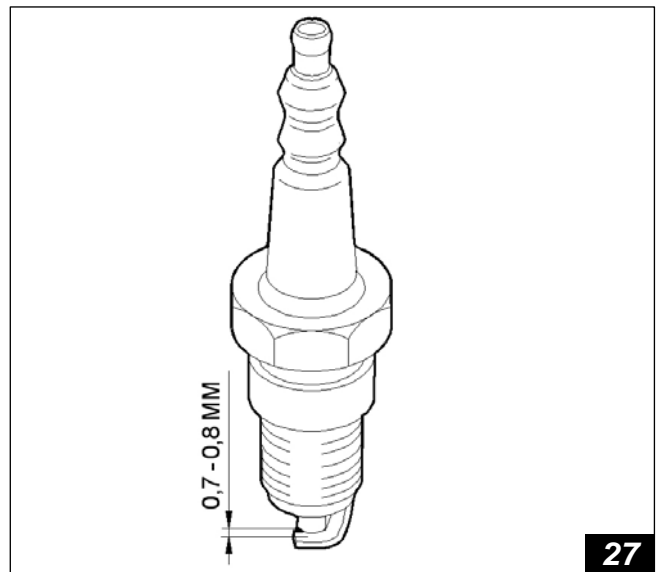


7.4.3 Spark plug maintenance

For both models of generating sets, use spark plugs mod. BP6ES, BPR6ES (NGK), W20EP-U, W20EPR-U (ND) or else spark plugs made by other manufacturers but compatible with the above.

Never use spark plugs with a different temperature degree from those listed above.

- Take the cap off the spark plug (Fig. 26 ref. 2) and using the special wrench take out the plug.
- Perform a sight check. Replace in case of obvious war or if the insulator is broken or cracked.
- Use a steel brush to clean the spark plug, if it can be used again.
- Use a thickness gauge to measure the distance between the electrodes. The right distance should be between 0.7 and 0.8 mm (Fig. 27).



- Correct the distance if necessary, folding the side electrode.
- Make sure that the spark plug washer is in good condition and then screw back on by hand so as to be sure it is put back in place properly. Finally, tighten using the special wrench at the right torque (see instructions on the engine user and maintenance manual).

INFORMATION *When assembling a new spark plug, tighten by 1/2 turn after the spark plug has compressed the sealing washer. If you put back the old plug after having removed it, tighten it by 1/4 turn after it has compressed the sealing washer.*

! WARNING *The spark plug must be tightened firmly. A badly positioned spark plug may become very hot and damage the engine.*

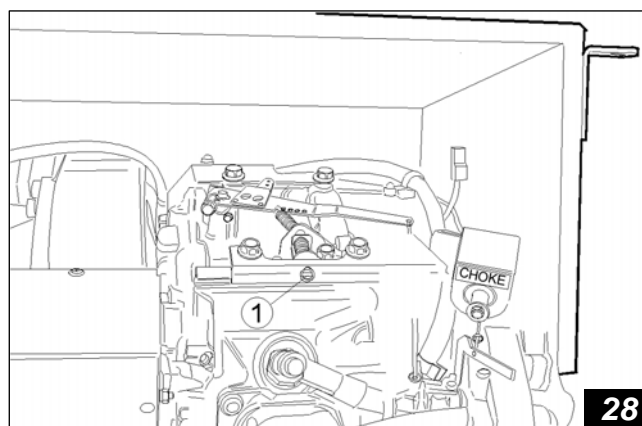
7.4.4 Voltage adjustment

Adjust the voltage when the engine is hot, no load is present and the generating set is running. Check the voltage of the generating set using a voltmeter via a 230 V vehicle socket. The voltage must be between 230 V and 245 V without any user being attached.

If the values are different from this it will be necessary to set the right ones by working on the engine rev adjustment screw (Fig. 28 ref. 1).

Turn the screw clockwise to increase the engine revs and hence the voltage.

Turn the screw counter-clockwise to diminish the engine revs and hence the voltage.



8 INSTRUCTIONS ON PUTTING OUT OF WORK AND DISMANTLING

8.1 Long downtime



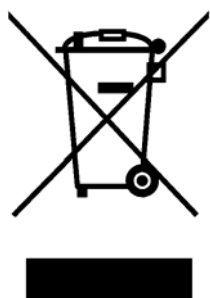
When the generator remains idle for at least three weeks, old unleaded petrol sediments could build up inside the carburettor. These sediments can seriously damage the engine and it is therefore COMPULSORY that the carburettor be completely emptied prior to a long period of non-use: do this by turning off the fuel tap and running the generator set until it stops.

It is also essential that you never use old unleaded petrol, as it can undergo chemical modifications and seriously damage the engine.

Failure to observe these instructions automatically renders the WARRANTY NULL AND VOID.

8.2 Dismantling

Should you have to dismantle the generating set, refer to specialised shops.



9 FIRE-PREVENTION

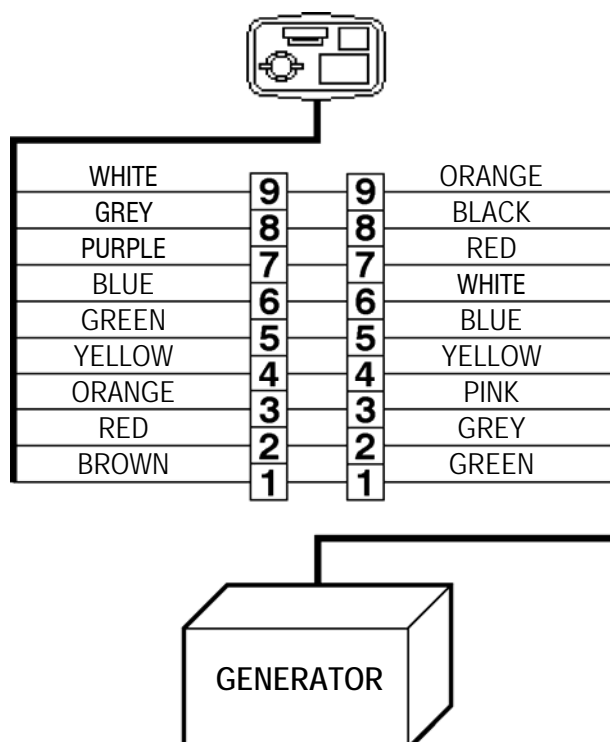
In case of fire, never open the hood of the generating set and use only approved type fire extinguishers.



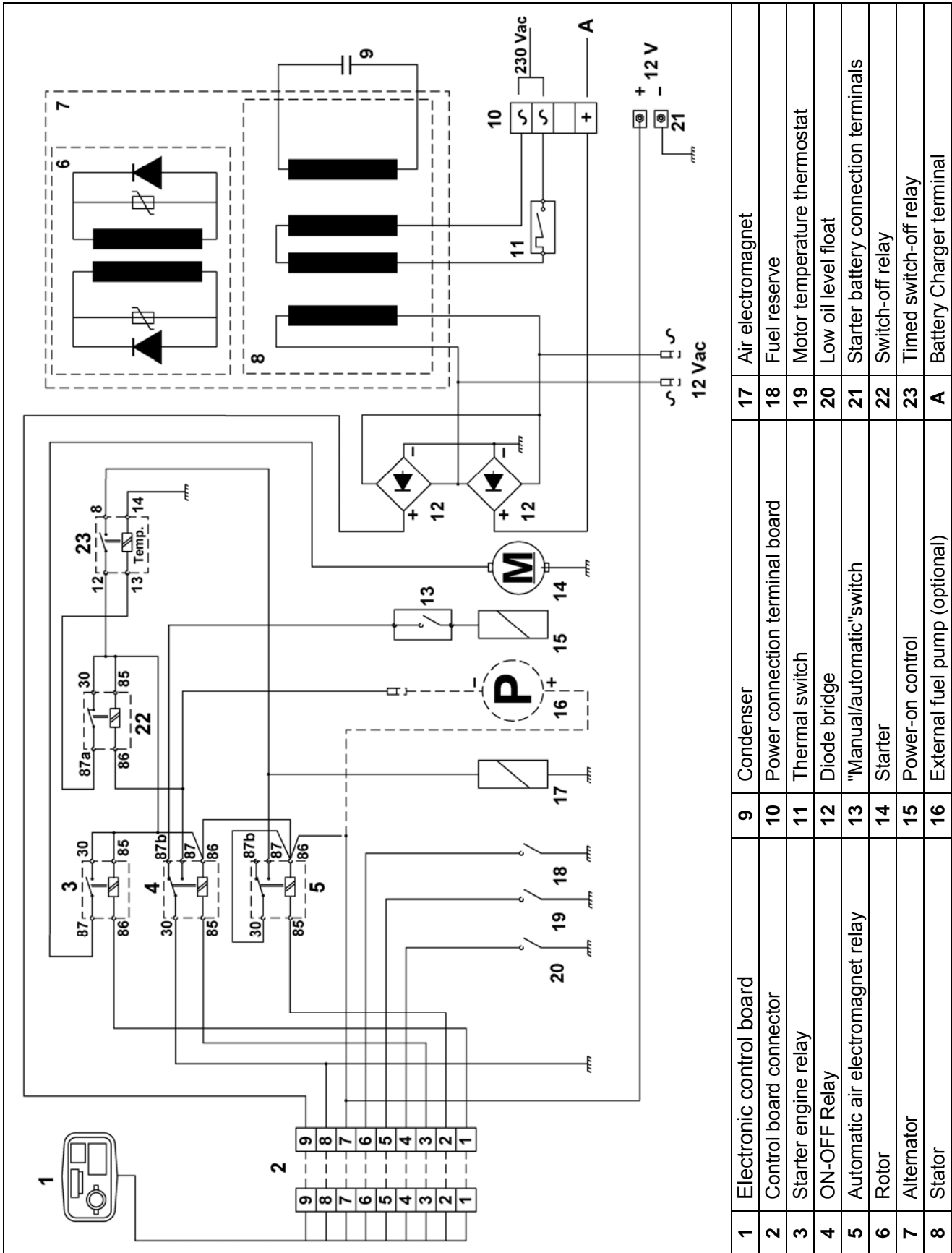
DANGER

Never use water to put out flames in the generating unit.

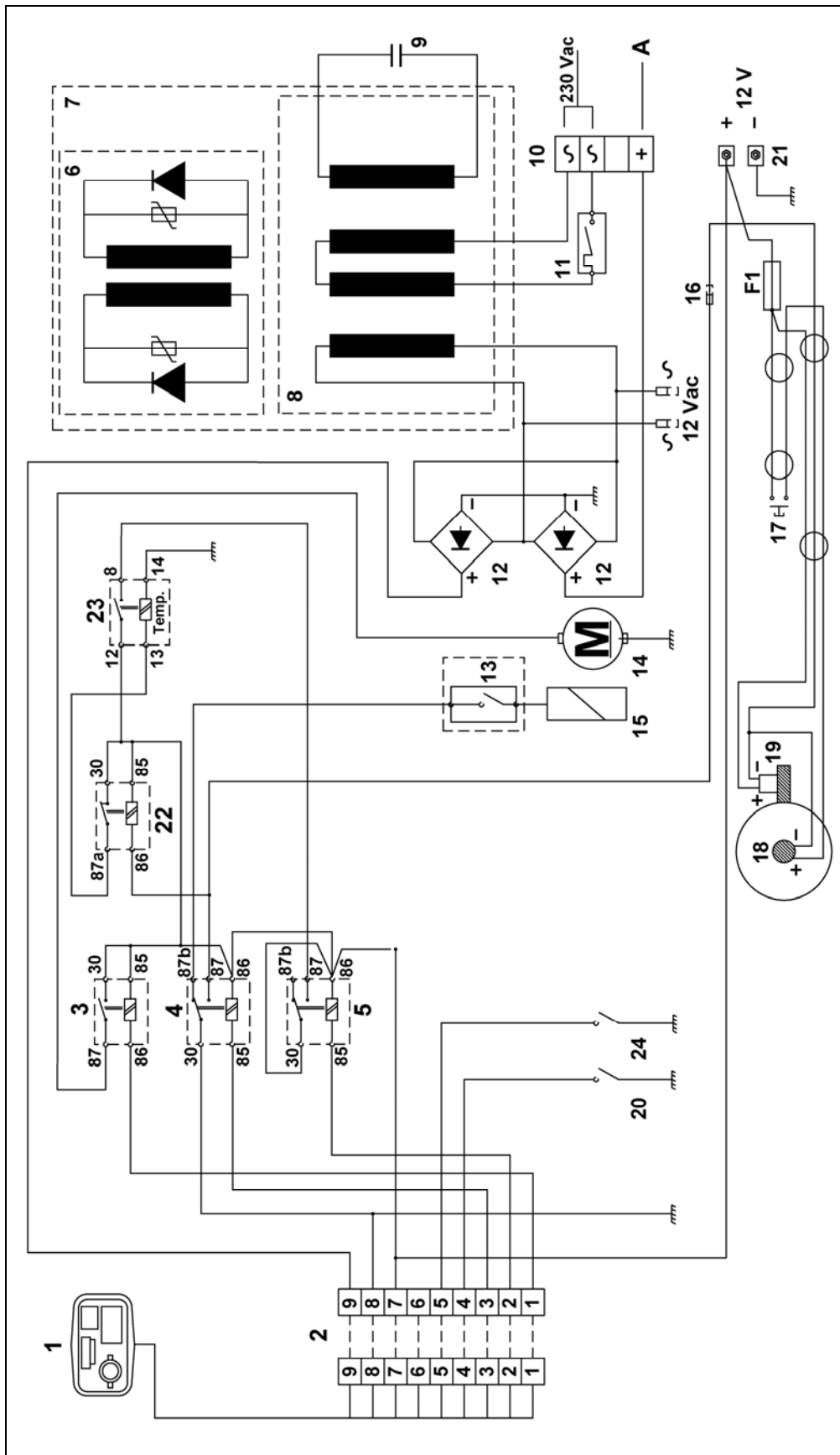
Electronic control panel connector



WIRING DIAGRAM ENERGY 4000 B

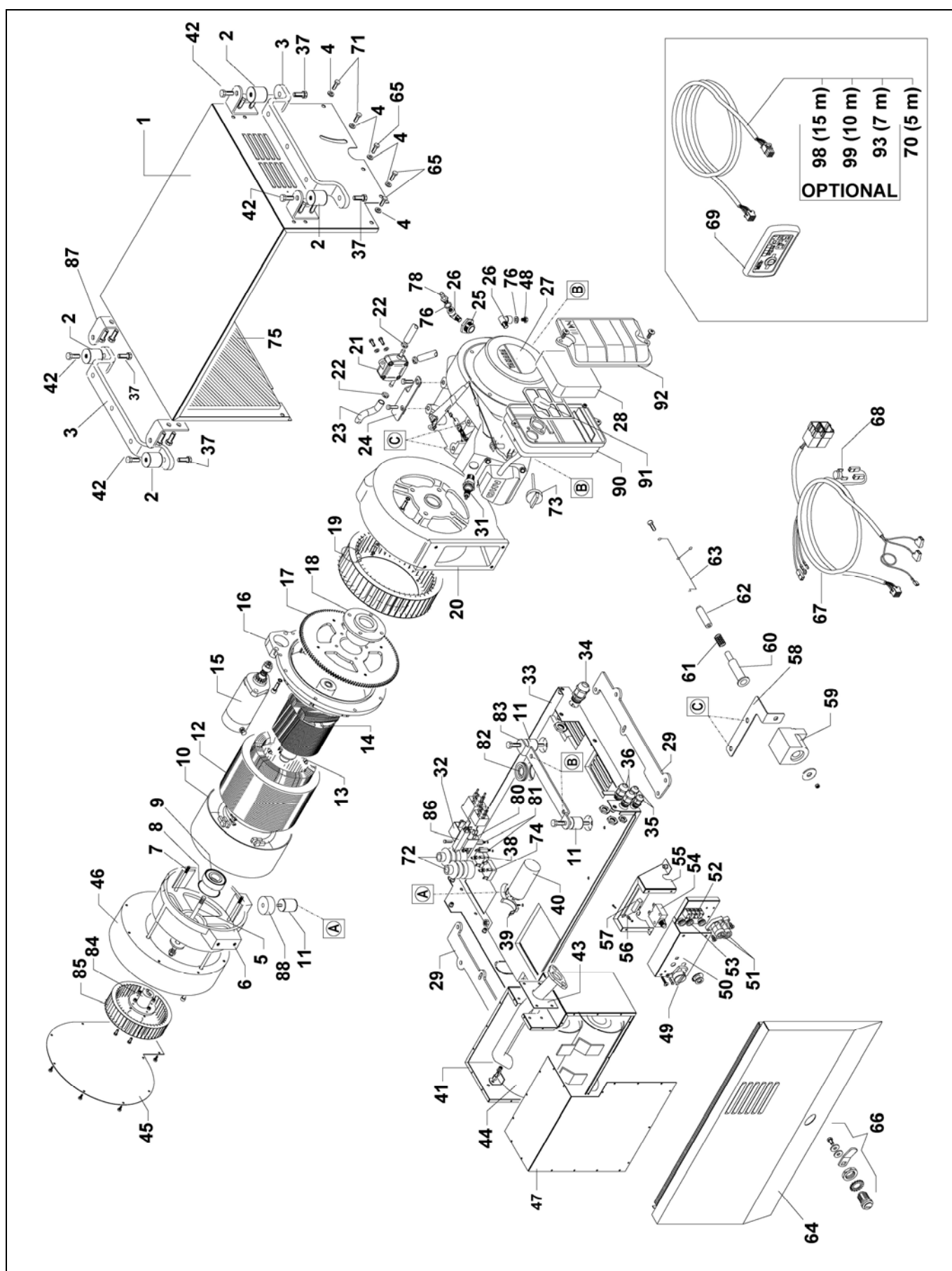


WIRING DIAGRAM ENERGY 4000 GAS

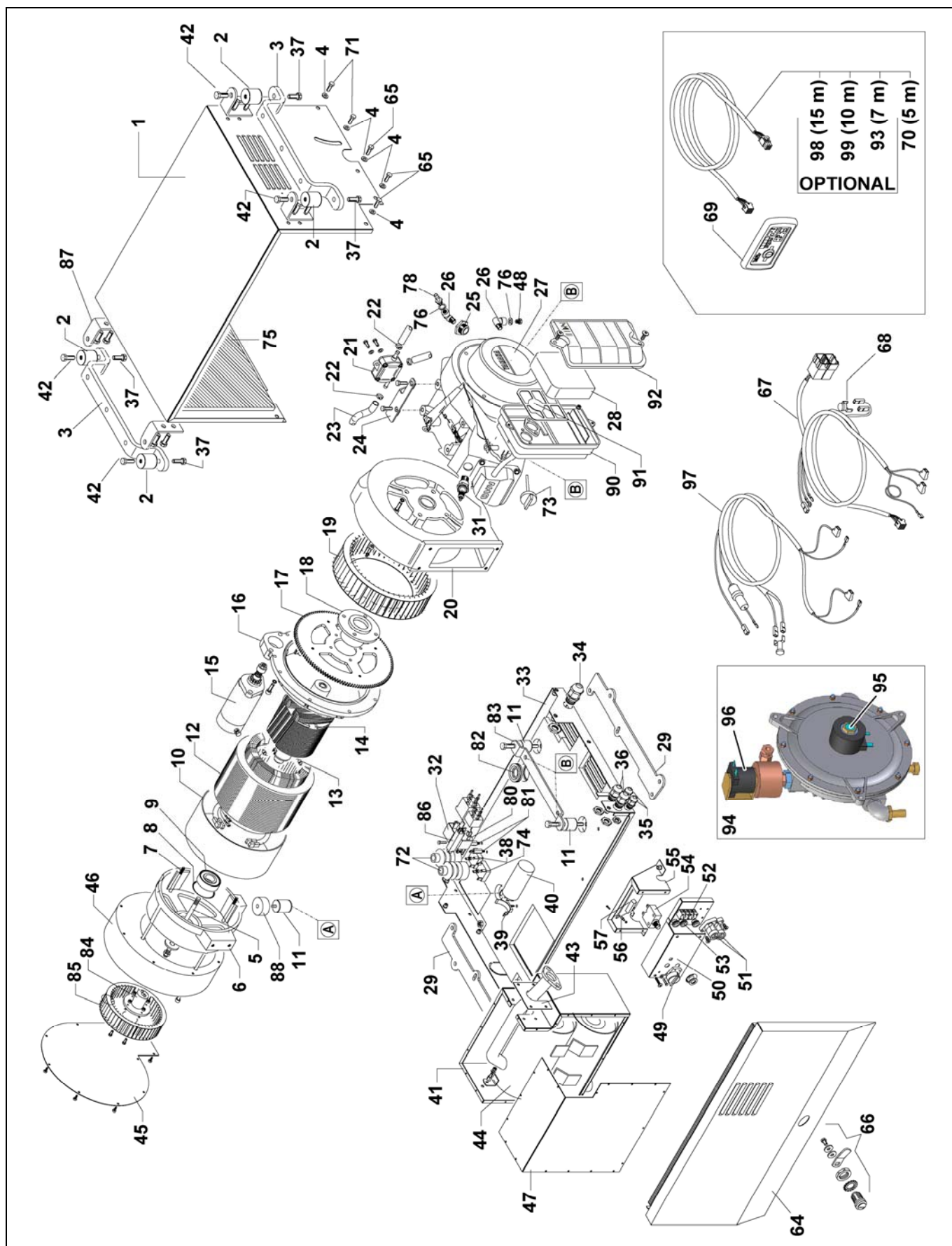


1	Electronic control board	10	Power connection terminal board	18	Pressure reducer
2	Control board connector	11	Thermal switch	19	GAS solenoid valve
3	Starter engine relay	12	Diode bridge	20	Low oil level float
4	ON-OFF Relay	13	Not used	21	Starter battery connection terminals
5	Not used	14	Starter	22	Motor temperature thermostat
6	Rotor	15	Power-on control	23	Timed switch-off relay
7	Alternator	16	Fuse	24	Motor temperature thermostat
8	Stator	17	Extra GAS button	A	Battery Charger terminal
9	Condenser				

DRAWING FOR SPARE PARTS LIST ENERGY 4000 B



DRAWING FOR SPARE PARTS LIST ENERGY 4000 GAS





Pos.	Code	Q.tà	Descrizione Description	Désignation Bezeichnung	Denomination Descripcion
1	02015	N. 1	Cofano superiore Upper cowling	Capot supérieur Obere Haube	Bovenste kap Capo superior
2	00632	N. 4	Antivibrante Vib.damper ANTIOIL	Anti-vibr. 30x30 I 8MA FF SH 45 AN-TIHUILE Schwing.bdämpf. 30x30 I 8MA FF SH 45 ÖLABW.	Trillingsdemp. 30x30 I 8MA FF SH 45 OLIEWEREND Silenc. 30x30 I 8MA FF SH 45 AN-TIACEITE
3	01671	N. 2	Staffa ancoraggio Anchor clamp	Bride de fixation Befestigungsbügel	Verankeringsbeugel Estribo de anclaje
4	05505	N. 16	Rondella 6x18x1 UNI 6593 Washer 6x18x1 UNI 6593	Rondelle 6x18x1 UNI 6593 Scheibe 6x18x1 UNI 6593	Onderlegging 6x18x1 UNI 6593 Arandela 6x18x1 UNI 6593
5	02049	N. 1	Vite fissaggio alternatore Alternator fastening screw	Vis de fixation de l'alternateur "Befestigungsschraube der Lichtmaschine"	Bevestigingsschroef dynamo Tornillo sujecion alternador
6	01429	N. 1	FUSIONE 2501/A1 CASTING 2501/A1	MOULAGE 2501/A1 GUSSTEIL 2501/A1	GIETWERK 2501/A1 FUNDICION 2501/A1
7	01086	N. 4	Vite M6x160 UNI5931 Screw M6x160 UNI5931	Vis M6x160 UNI5931 Schraube M6x160 UNI5931	Schroef M6x160 UNI5931 Tornillo M6x160 UNI5931
8	02050	N. 1	Rondella alternatore Alternator washer	Rondelle de l'alternateur Scheibe der Lichtmaschine	Onderlegging dynamo Arandela alternador
9	02051	N. 1	Cuscinetto alternatore Alternator bearing	Palier de l'alternateur Lager der Lichtmaschine	Lager dynamo Cojinete alternador
10	02054	N. 2	Diodo alternatore Alternator diode	Diode de l'alternateur Diode der Lichtmaschine	Diode dynamo Diodo alternador
11	01989	N. 3	Antivibrante Vibration damper	Anti-vibrations Schwingungsdämpfer	Trillingsdemper Silenciador
12	02714	N. 1	Statore alternatore Alternator stator	Stator de l'alternateur Stator der Lichtmaschine	Stator dynamo Estator alternador
13	02054	N. 2	Diodo alternatore Alternator diode	Diode de l'alternateur Diode der Lichtmaschine	Diode dynamo Diodo alternador
14	02715	N. 1	Rotore alternatore Alternator rotor	Rotor de l'alternateur Rotor der Lichtmaschine	Rotor dynamo Rotor alternador
15	00299	N. 1	Motore EL. 12 V 0,30 kW El. Motor 12 V 0.30 kW	Moteur él. 12 V 0,30 kW Elektromotor 12 V 0,30 kW	El. motor 12 V 0,30 kW Motor el. 12 V 0,30 kW
16	03833	N. 1	Fusione ATR 4000/B1 Casting ATR 4000/B1	Moulage ATR 4000/B1 Gussteil ATR 4000/B1	Gietwerk ATR 4000/B1 Fundicion ATR 4000/B1
17	03727	N. 1	Corona dentata x mozzo flangiato Ring gear for flanged hub	Couronne dentée pour moyeu bridé Zahnkranz für Flanschnabe	Conisch tandwiel geflensde naaf Corona dentada cubo embridado
18	03829	N. 1	Ghiera Ring nut	Bague Nutmutter	Klemring Virola
19	03574	N. 1	Ventola Fan	Ventilateur Lufterrad	Ventilator Ventilador
20	02717	N. 1	Fusione ATR 4000/C1 Casting ATR 4000/C1	Moulage ATR 4000/C1 Gussteil ATR 4000/C1	Gietwerk ATR 4000/C1 Fundicion ATR 4000/C1
21	00958	N. 1	Pompa a depressione Vacuum pump	Pompe à dépression Vakuumpumpe	Vacuumpomp Bomba de vacío
22	01127	N. 4	Fascetta stringitubo Hose clamp	Collier serre-tube Schlauchschele	Pijpklembandje Abrazadera para tubo
23	01442	0,7 m	Tubo Pipe	Tuyau Rohr	Pijp Tubo
24	02188	N. 1	Staffa supp. pompa carburante Fuel pump bearing bracket	Bride de support pompe à carburant Befestigungsbügel der Kraftstoffpumpe	Steunbeugel brandstofpomp Estribo soporte bomba carburante
25	02690	N. 1	Tappo filettato Threaded cap	Bouchon fileté Verschluss mit Gewinde	Schroefdraaddop Tapòn roscado
26	00478	N. 2	Raccordo 90° 1/8 MF Fitting 90° 1/8 MF	Raccord 90° 1/8 MF Anschlussstück 90° 1/8 MF	Koppeling 90° 1/8 MF Empalme 90° 1/8 MF
27	01648	N. 1	Motore YAMAHA MZ 250 YAMAHA motor MZ 250	Moteur YAMAHA MZ 250 Motor YAMAHA MZ 250	YAMAHA motor MZ 250 Motor YAMAHA MZ 250
28	02729	N. 1	Filtro aria Air cleaner	Filtre à air Luftfilter	Luchtfilter Filtro aire
29	02619	N. 2	Supporto inferiore (optional) Lower support (optional)	Support inférieur (option) Unterer Halter (option)	Onderste steun (optie) Soporte inferior (opcional)
31	02743	N. 1	Candela Plug	Bougie Kerze	Bougie Bujia
32	00093	N. 1	Relè 12 V 70 A Relay 12 V 70 A	Relais 12 V 70 A Relais 12 V 70 A	Relais 12 V 70 A Rele 12 V 70 A
33	02014	N. 1	Basamento cassa Case base	Base de la caisse Kasten-Grundrahmen	Onderstel kast Base caja
34	00370	N. 3	Passacavo SKINTOP PG16 SKINTOP PG16 fairlead	Serre-câble SKINTOP PG16 Kabeldurchführung SKINTOP PG16	Kabeldoorvoer SKINTOP PG16 Pasacable SKINTOP PG16

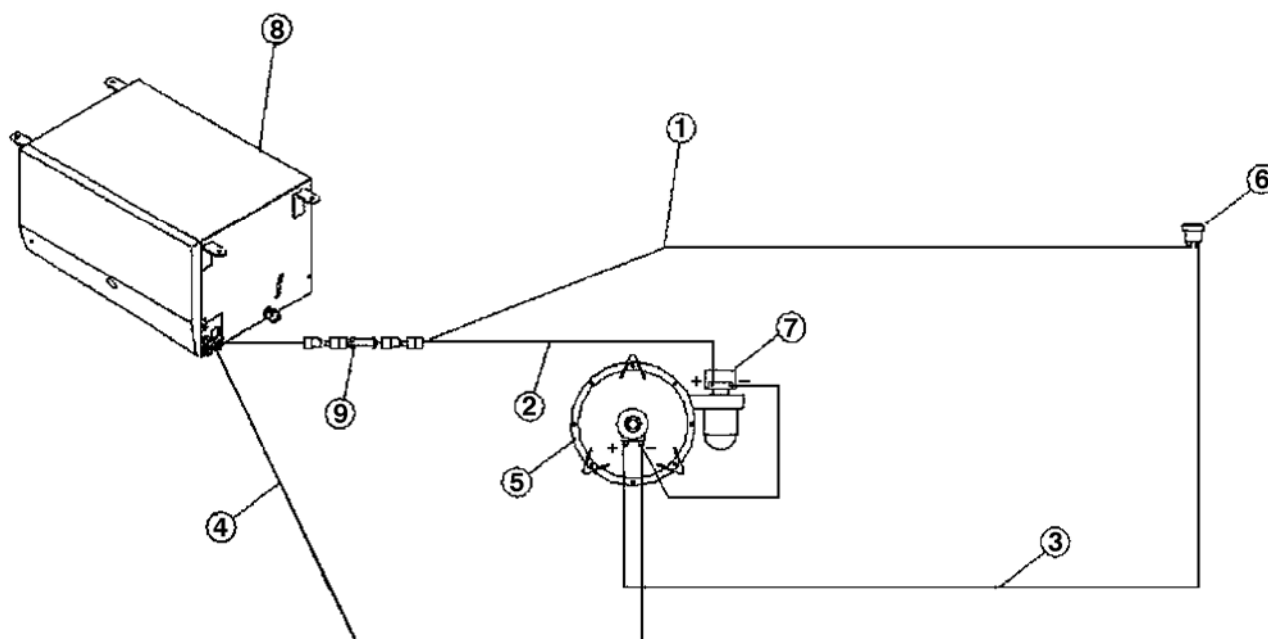
Pos.	Code	Q.tà	Descrizione Description	Dénomination Bezeichnung	Denominación Descripción
35	00369	N. 3	Dado plastica PG16 plastic nut	Ecrou plastique PG16 Kunststoffmutter PG16	Moer plastic PG16 Tuerca plástico PG16
36	00863	N. 2	Pressacavo SKINTOP PG9 SKINTOP cable gland	Serre-câble SKINTOP PG9 Kabelschelle SKINTOP PG9	Kabelklem SKINTOP PG9 Prensacable SKINTOP PG9
37	00854	N. 4	Vite UNI 5739 UNI 5739 screw	Vis UNI 5739 Schraube UNI 5739	Schroef UNI 5739 Tornillo UNI 5739
38	01251	N. 2	Diodo ponte raddrizzatore Bridge rectifier diode	Diode redresseur en pont Gleichrichterbrückendiode	Diode gelijkrichterbrug Diodo puente rectificador
39	01324	N. 1	Fascetta porta condensatore Condenser-holding clamp	Collier porte-condenseur Tragband für Kondensator	Draagbandje condensator Abrazadera para condensador
40	01997	N. 1	Condensatore 18 µF Condenser 18 µF	Condensateur 18 µF Kondensator 18 µF	Condensator 18 µF Condensador 18 µF
41	02615	N. 1	Scatola marmitta Muffler box	Boîtier du pot d'échappement Schalldämpfergehäuse	Knaldemperkast Caja silenciador
42	00578	N. 4	Vite M 8x16 UNI 5739 Screw M 8x16 UNI 5739	Vis M 8x16 UNI 5739 Schraube M 8x16 UNI 5739	Schroef M 8x16 UNI 5739 Tornillo M 8x16 UNI 5739
43	02186	N. 1	Collare scatola marmitta Muffler box collar	Collier boîtier du pot d'échappement Bundring für Schalldämpfergehäuse	Kraagring knaldemperkast Collar caja silenciador
44	02408	N. 1	Marmitta Muffler	Pot d'échappement Auspufftopf	Knaldemper Silenciador de escape
45	02630	N. 1	Chiusura convogliatore Conveyor closure	Fermeture du convoyeur Verschluss Luftleitblech	Afdekking geleider Cierre transportador
46	02183	N. 1	Convogliatore alternatore Alternator conveyor	Convoyeur alternateur Luftleitblech Lichtmaschine	Geleider wisselstroomdynamo Transportador alternador
47	02185	N. 1	Chiusura scatola marmitta Muffler box closure	Fermeture du boîtier du pot d'échappement Verschluss Schalldämpfergehäuse	Afdekking knaldemperkast Cierre caja silenciador
48	00810	N. 1	Tappo Cap	Bouchon Kappe	Dop Tapon
49	01407	N. 1	Interruttore Manuale/Autom. Manual/Automatic Switch	Interrupteur Manuel/Automatique Schalter Hand/Auto	Schakelaar handb./autom. Interruptor Manual/Autom.
50	01838	N. 1	Scatola di comando Control box	Boîtier de commande Schaltkasten	Besturingskast Caja de mando
51	01209	N. 2	Morsetto LEGRAND 2x10 Clamp LEGRAND 2x10	Borne LEGRAND 2x10 Klemme LEGRAND 2x10	Aansluitklem LEGRAND 2x10 Borne LEGRAND 2x10
52	01139	N. 2	Morsetto Terminal	Borne Klemme	Aansluitklem Mordaza
53	01120	N. 1	Raccordo D10 GPL ottone Brass union D10 GPL	Raccord D10 GPL en cuivre Anschluss D10 GPL aus Messing	Messing LPG-koppeling D10 Union D10 GPL laton
54	01929	N. 1	Protezione termica Thermal protection	Protection thermique Wärmeschutz	Thermische beveiliging Protección térmica
55	01839	N. 1	Fondo scatola di comando Control box bottom	Fond du boîtier de commande Schaltkastenboden	Onderkant besturingskast Fondo caja de mando
56	02013	N. 1	Distanziatore ottone Brass spacer	Entretoise en cuivre Distanzstück aus Messing	Messing afstandshouder Riostra laton
57	01144	N. 1	Circuito stampato C.S. T0101 REV. C Printed circuit T0101 C version	Circuit imprimé T0101 version C Gedruckte Schaltung T0101 Version C	Gedrukte schakeling T0101 versie C Circuito Impreso T0101 version
58	02187	N. 1	Staffa supporto choke Choke bearing bracket	Bride de support bobine Choke-Befestigungsbügel	Steenbeugel choke Estribo soporte bobina
59	00242	N. 1	Bobina Choke	Bobine Spule	Bobine Bobina
60	02072	N. 1	Boccola magnete Magnet bush	Bague aimant Magnet-Buchse	Magneetbus Casquillo iman
61	00704	N. 1	Molla Spring	Ressort Feder	Veer Resorte
62	02073	N. 1	Ancoretta magnete Magnet armature	Magnetanker Armature de l'aimant	Magneetanker Ancla iman
63	03648	N. 1	Molla comando choke Choke pushing spring	Ressort de commande bobine Choke-Betätigungsfeder	Bedieningsveer choke Resorte accionamiento bobina
64	02016	N. 1	Lamiera di chiusura sportello Door closing plate	Tôle de fermeture de porte Türblech	Afdekplaat deurtje Chapa cierre puerta
65	00642	N. 5	Vite M 6x16 UNI 5739 Screw M 6x16 UNI 5739	Vis M 6x16 UNI 5739 Schraube M 6x16 UNI 5739	Schroef M 6x16 UNI 5739 Tornillo M 6x16 UNI 5739
66	01224	N. 1	Serratura Lock	Serrure Schloss	Slot Cerradura
67	02697	N. 1	Cablaggio Harness	Câblage Verkabelung	Bedrading Cableado
68	01128	N. 1	Termostato 90° Thermostat 90°	Thermostat 90° Thermostat 90°	Thermostaat 90° Termostato 90°



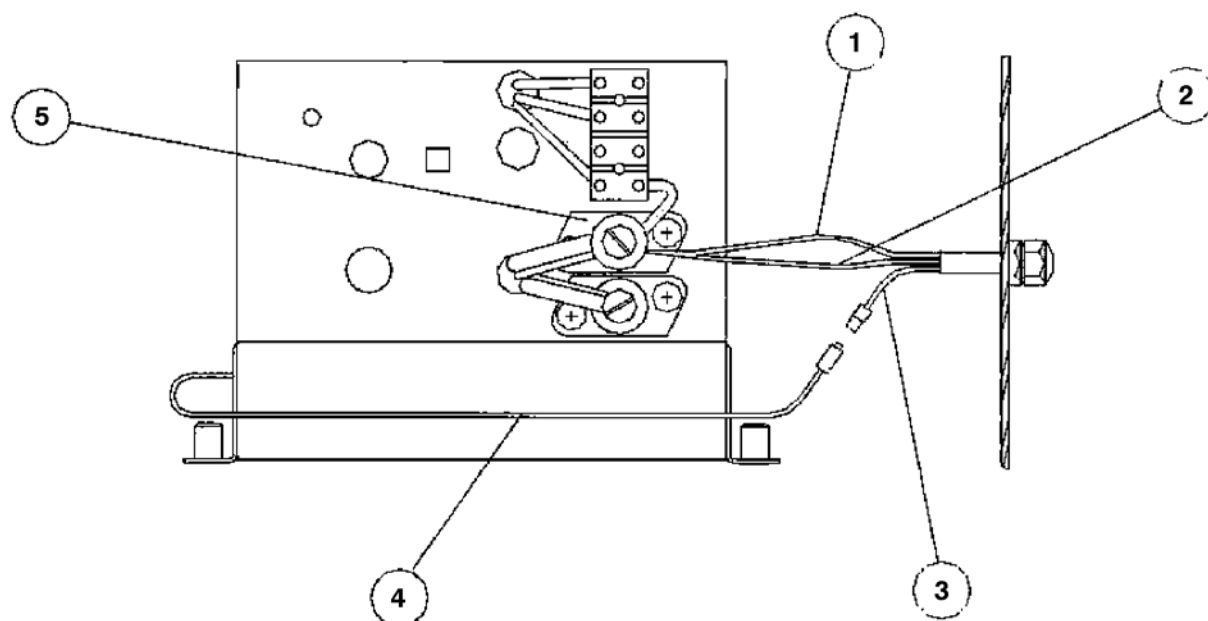
Pos.	Code	Q.tà	Descrizione  Description 	Désignation  Bezeichnung 	Denomination  Descripción 
69	03789	N. 4	Pannello di controllo ENERGY ENERGY control panel	Tableau/contrôle ENERGY Bedienpanel ENERGY	Schakelpaneel ENERGY Panel de control ENERGY
70	03830	N. 1	Cavo 5 m da generatore a Pannello di controllo 5 m cable from generating set to control panel	Câble 5 m du Générateur au Pan-neau de Contrôle 5 m Kabel von Generator zu Bedienpanel	5 m kabel van generator naar bedieningspaneel Cable 5 m de generador a panel de control
71	01772	N. 1	Vite ISO 7380 ISO 7380 screw	Vis ISO 7380 Schraube ISO 7380	Schroef ISO 7380 Tornillo ISO 7380
72	02046	N. 2	Gommino protezione ponte di Diodi Diode bridge protection grommet	Protection en caoutchouc du pont de diodes Gummiteil zum Schutz der Diodenbrücke	Beschermrubbertje gelijkrichterbrug Proteccion de caucho puente de diodos
73	02732	N. 1	Tappo olio Oil cap	Bouchon de l'huile Ölschraube	Oliedop Tapon aceite
74	01251	N. 2	Diodo ponte raddrizzatore Bridge rectifier diode	Diode redresseur en pont Gleichrichterbrückendiode	Diode gelijkrichterbrug Diodo puente rectificador
75	02712	N. 1	Kit coibentazione Insulation kit	Kit de calorifugeage Isolierset	Isolatieset Kit Aislamiento termico
76	00931	N. 2	Rondella in alluminio Aluminium washer	Rondelle en aluminium Alu-Scheibe	Onderlegging van aluminium Arandela aluminio
78	01132	N. 1	Resca Union for vacuum pipe	Raccord pour tuyau à dépression Schlauchanschluss	Koppeling voor vacuümpijp Union para tubo depresion bomba gasolina
80	02701	N. 1	Scatola filtro aria Air filter box	Boitier du filtre à air Luftfiltergehäuse	Behuizing luchtfilter Caja filtro aire
81	00401	N. 2	Distanziatore acciaio Steel spacer	Entretoise en acier Distanzstück aus Stahl	Stalen afstandshouder Riostra acero
82	01388	N. 1	Passacavo Fairlead	Serre-câble Kabeldurchführung	Kabeldoorvoer Pasacable
83	02184	N. 1	Staffa fissaggio motore Engine fastening bracket	Bride de fixation du moteur Motor-Befestigungsbügel	Bevestigingsbeugel motor Abrazadera sujeción motor
84	02614	N. 1	Distanziale ventola Fan spacer	Entretoise du ventilateur Distanzstück Lüfter	Afstandshouder ventilator Riostra ventilador
85	03573	N. 1	Ventola 160 Fan 160	Ventilateur 160 Lufterrad 160	Ventilator 160 Ventilador 160
86	02468	N. 1	Minirelè temporizzato Timed minirelay	Mini-relais temporisé Zeitgeschaltetes minirelais	Minirelè tijdgeschakeld Minirelè temporizado
87	02189	N. 4	Staffe fissaggio cofano Hood fastening brackets	Bride de fixation de l'habillage Befestigungsbügel für motorhaube	Bevestigingsbeugels kap Abrazaderas sujeción capò
88	02720	N. 1	Distanziale di supporto Support spacer	Entretoise de support Distanzstück halter	Afstandshouder steun Riostra soporte
90	02727	N. 1	Scatola filtro aria Air filter box	Boitier du filtre à air Luftfiltergehäuse	Behuizing luchtfilter Caja filtro aire
91	02728	N. 1	Supporto filtro aria Air filter support	Support du filtre à air Luftfilteraufnahme	Steun luchtfilter Soporte filtro aire
92	02730	N. 1	Coperchio filtro aria Air filter lid	Couvercle du filtre à air Luftfilterdeckel	Kap luchfilter Tapa filtro aire
93	03831	N. 1	Cavo 7 m da generatore a Pannello di controllo 7 m cable from generating set to control panel	Câble 7 m du Générateur au Pan-neau de Contrôle 7 m Kabel von Generator zu Bedienpanel	7 m kabel van generator naar bedieningspaneel Cable 7 m de generador a panel de control
94	01349	N. 1	Riduttore di pressione Pressure reducer	Manodétendeur Druckreduzierer	Drukregelaar Reductor de presion
95	02292	N. 1	Bobina di starter Starter coil	Bobine d'allumage Starterspule	Starterspoel Bobina de starter
96	01344	N. 1	Bobina 12 Vcc Choke 12 Vcc	Bobine 12 Vcc Spule 12 Vcc	Bobine 12 Vcc Bobina 12 Vcc
97	01343	N. 1	Cablaggio esterno gas Gas external harness	Câblage extérieur du gaz Externe Verkabelung Gas	Externe gasbedrading Cableado exterior gas
98	03832		Cavo 15 m da generatore a Pannello di controllo 15 m cable from generating set to control panel	Câble 15 m du Générateur au Pan-neau de Contrôle 15 m Kabel von Generator zu Bedienpanel	15 m kabel van generator naar bedieningspaneel Cable 15 m de generador a panel de control
99	03941		Cavo 10 m da generatore a Pannello di controllo 10 m cable from generating set to control panel	Câble 10 m du Générateur au Pan-neau de Contrôle 10 m Kabel von Generator zu Bedienpanel	10 m kabel van generator naar bedieningspaneel Cable 10 m de generador a panel de control

CAUTION IMPORTANT

- Set the solenoid valves in vertical position.
- Keep the air filter clean.



- 1 Cable n° 1, brown color, connected to the POSITIVE pole of the battery and to a terminal of the primer push button.
- 2 Cable n° 2, brown colour, connected to the POSITIVE pole of the battery and to the positive terminal of the gas solenoid valve.
- 3 Cable n° 3, blue colour, connected to the terminal of the primer push button and to the positive terminal of the primer solenoid valve.
- 4 Cable n° 4, yellow-green colour, connected to the negative terminals of two solenoid valves and connected to another yellow-green cable inside the generator.
- 5 Primer solenoid valve.
- 6 Primer push button.
- 7 Gas solenoid valve.
- 8 Generator.
- 9 FUSE TO BE FITTED – 5 A (by the customer).

WIRING DIAGRAM INSIDE THE GENERATOR FOR THE CABLES OF THE LPG SYSTEM**FOR ENERGY 4000 B ONLY**

- 1 Brown cable from the positive terminal of the battery to any of the terminals of the primer push button.
- 2 Brown cable from the positive terminal of the battery to the positive terminal of the gas solenoid valve.
- 3 Yellow-green return cable of the external circuit of the gas system.
- 4 Yellow-green cable inside the generator, which the return cable is to be connected to.
- 5 Terminal which the positive terminal of the battery is to be connected.

HOSE CONNECTION BETWEEN THE BOTTLE AND REDUCER FOR ENERGY 4000 GAS

Fig. A: The generator (1) is supplied by TELAIR complete with the special pressure reducer (2) and one metre long gas hose (3) to connect the pressure reducer to the generator.

The gas hose (4) to connect the pressure reducer to the gas bottle (5) is not supplied.

Per questo collegamento l'installatore deve utilizzare un adeguato tubo omologato munito degli adeguati raccordi.

INFORMATION When using the generator in cold environments, please remember that the lower the temperature (down to a temperature limit of -15°C), the higher the percentage of propane gas which is recommended

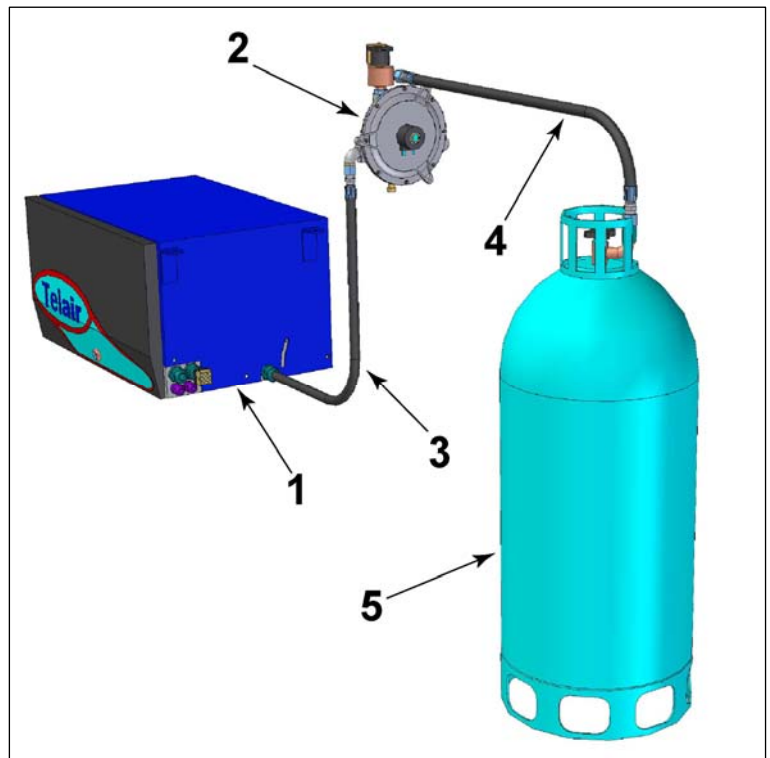


Fig. A

IT IS FORBIDDEN to carry out connections to the pressure reducer and bottle as is shown in Fig. B.

The correct connecting procedure is shown in fig. C: the coupling (6) is gripped on a special hose. Insert the sleeve (7) and while holding the fixed hex nut (8) with a spanner tighten the ring nut (9).

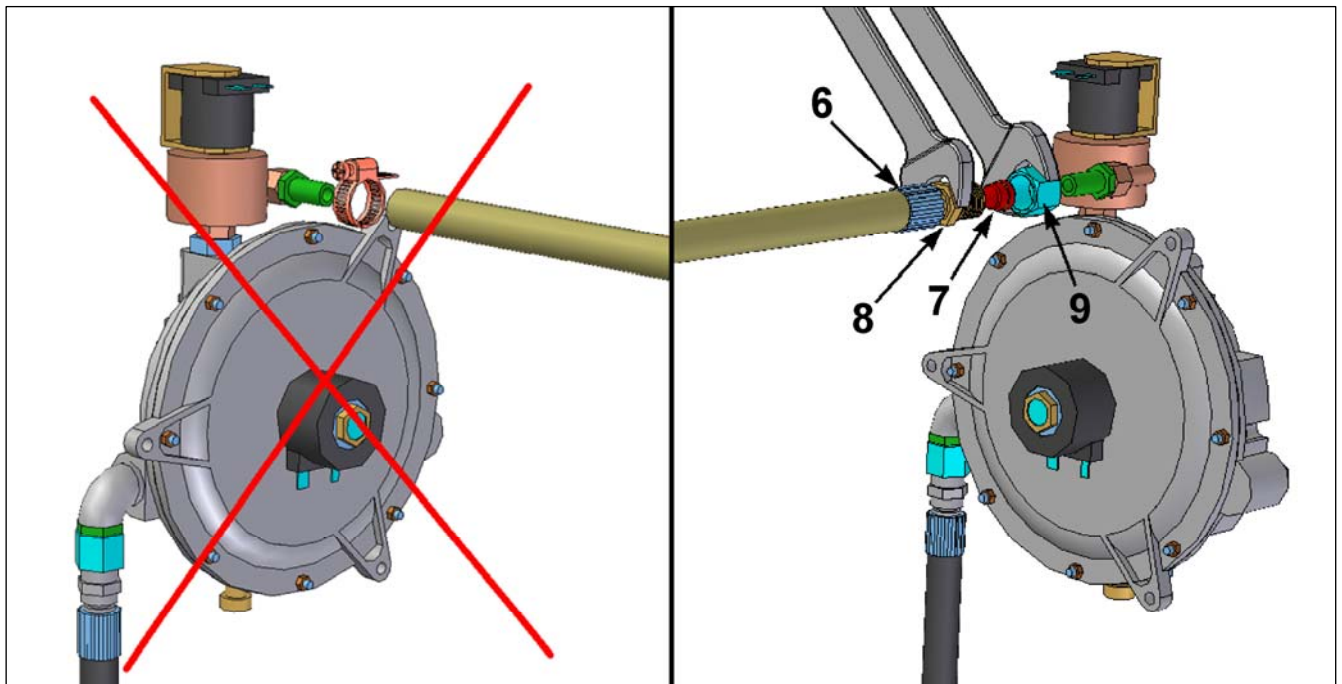


Fig. B

Fig. C



GENERAL WARRANTY TERMS

TELAIR guarantees its products against any material and/or manufacturing faults and defects.

The entitlement to warranty cover for new engines is valid for a period of 24 months from the time of handing over to the end user, or for a maximum of 1000 operating hours, whichever of these limits is reached first. In all cases the warranty period shall lapse no later than 26 months (28 months if delivered outside Europe) after delivery ex factory.

For electric and hydraulic components, pipes, belts, sealing elements, injection nozzles, clutches, gear boxes, the warranty term is 12 months from the time of handing over to the end user, or for a maximum of 1000 operating hours, whichever of these limits is reached first. In all cases the warranty period shall lapse no later than 14 months (16 months if delivered outside Europe) after delivery ex factory.

In any case, the costs of lubricants and consumables shall be charged. Any transport expenses shall be intended as to be covered by the purchaser; the same applies to any expenses connected with inspections requested by the customer and accepted by **TELAIR**.

In any case, the costs of lubricants and consumables shall be charged.

The manufacturer's warranty shall only be valid if:

- the customer has carried out any routine maintenance according to the recommended schedule and has promptly visited the nearest after-sale centre if required.
- the customer can produce a document showing the date of sale (invoice or receipt).

Such document will have to be kept with care and be intact when produced to the **TELAIR** After-Sales centre on requesting service.

In any case, the purchaser shall not be entitled to:

- terminate the contract;
- claim damages to persons or property;
- ask that the warranty be extended in the event of product defects or malfunctioning.



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