

1 Safety Information

1.1 Safe Operation

Before operating the machine, read the following safety regulations carefully and find out the local requirements in safety. It can reduce the possibility of personal injury, damage to the equipment, or improper service.

The operation, maintenance and repair must be carried out only by authorized and competent personnel. The owner is responsible for maintaining the genset in good safety conditions.

Read carefully the safety symbols attached on the genset and obey all messages that follow the symbols to avoid possible injury.

Safety Before Operation

- Do not allow any child or animal to access the operating area when the genset is working.
- All internal combustion engines create carbon monoxide gas during operation. Accumulation of this gas in an enclosure could cause illness or even death. Never operate the genset in an enclosed area without proper ventilation. Ensure the exhaust pipe and muffler are far from flammable and explosive subjects.
- Ensure the load connections and distributions are made by a qualified and experienced electrician and accord with relevant regulations, standards and other criterions of the electrical appliance.
- Ensure all insulating and grounding connections are in accord with requirements.
- Check engine oil, coolant and fuel, make sure that there is no leakage.
- Check the level of engine oil, coolant and fuel, make sure each of which is in accord with requirement.



SO1

Safety During Operation

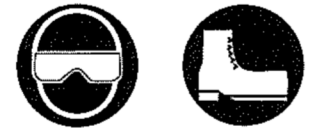
- The operator should always wear ear protections to protect ears from being harmed due to long noise.
- Before starting the engine, make sure that all circuit breakers are set to the "OFF" position.
- Do not touch any wire when the genset is running, because they are live and may cause electrical shock.
- Do not connect or disconnect loads during running. There is high voltage whenever the engine is running. Electrical shock can cause serious or fatal injury. Loads should be connected correctly before starting.
- Do not touch the engine, radiator or exhaust gas outlet, because the temperature of their surfaces is very high and touching may cause scald.
- Do not try to move the genset when it is running.
- Do not smoke or make a fire near the genset during running. It may cause fire because the burning point of fuel is low.
- Do not press the emergency stop button at will. Only use it in an actual emergency.
- If the genset shuts down due to a fault, do not restart it until the cause has been checked out and repaired.
- Stop the genset and let it cool down completely before performing maintenance and repair.



SO2

Chemicals Safety Instructions

- Fuel and oil for the genset are flammable and may explode under certain conditions. Always treat them carefully to avoid danger in potential. Otherwise, the genset room should be equipped with BC or ABC fire extinguishers and make sure the user know how to use it.
- Only class BC or ABC fire extinguisher could be used to put out the fire.
- All the fuel and many kinds of engine oil and chemicals are flammable. Read and follow the instructions on the package.
- Ensure the engine has been cooled down before performing any operation on fuel system. It may cause fire if the fuel sprays on the hot surface or electrical components.
- All the materials should be placed in order and well protected. Flammable and metal material should be kept far away from electric power.
- Do not smoke near the gas station or engine when adding the fuel or oil.
- Battery may release hydrogen and oxygen during charging which may explode when it is hot. Keep it far away from hot area. Battery contains sulfuric acid. Never allow battery fluid to come in contact with clothing, skin or eyes. Once it happens, immediately flush the affected area with a large amount of clean water and obtain prompt medical treatment.
- Do not smoke or make a fire near the battery in any case.
- Never use the start liquid or similar things to start the engine with air pre-heat device. Otherwise, the preheater in intake manifold may explode and cause personal injury.
- Keep your hands and other body parts away from the hot surfaces such as the muffler, exhaust pipe, turbocharger (if equipped), engine block and alternator block during operation and shortly after you shut the engine down. These surfaces are extremely hot while the genset is operating and could seriously burn you.
- Follow the guideline of EPA or other governmental agencies for the proper disposal of hazardous materials such as engine oil, diesel fuel and engine coolant. Failure to follow these procedures may seriously harm the environment.
- Avoid skin contact with the high-pressure diesel fuel spray caused by fuel system leak. High-pressure fuel can penetrate your skin and result in serious injury. If you are exposed to high-pressure fuel spray, obtain prompt medical treatment.
- Wear personal protective equipment such as gloves, work shoes, goggles and hearing protection. Never wear jewelry, ties or loose-fitting clothing when you are working near moving/rotating parts such as a cooling fan, flywheel, or pulley.



SO3

Electric Safety Instructions

- Turn off the battery switch before installing and servicing the electrical system.
- Do not stand in water or on wet ground during operating and servicing the electrical system. Keep your hands and other body parts away from live parts such as cables, harness or connect terminals.
- Replace the protective cover plate of the field wiring distribution box immediately after serving and maintenance. Never operate the genset while the protective cover plate is open.
- Check and make sure the genset's characteristics are compatible with the main or standby power source system and the loads. Cut off all the power before maintenance and repair.
- Check the electrical harness for crack, abrasion, and damaged or corroded connections. Always keep the connectors and terminals clear and tight connected.
- Check and make sure all the electrical elements, harness and cables are insulated properly.



SO4

Safety During Lifting and Transporting

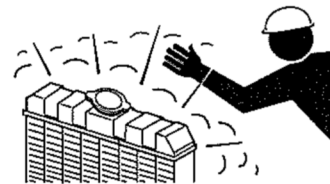
- Always shut down the engine before lifting and transporting.
- Check the fuel and oil cap, make sure they have been tightened.
- Close all doors and lock them before lifting and transporting.
- Only use the special lifting lugs to lift the genset. It is totally forbidden to use any other lifting lugs located over the engine, alternator or other components.
- Check the lifting lugs before lifting, make sure they have been mounted correctly and welded firmly. In addition, the lifting devices should have enough capacity to lift the genset safely.
- Check the welding area of all lifting lugs. They could not be used if there is a crack.
- Do not stand nearby while lifting.
- Be careful during lifting or transporting to avoid the unnecessary damages and abrasions.
- It is totally forbidden to install or use the machine in a space storing dangerous goods.



SO5

Safety During Engine Running

- Do not add or change coolant while operating the genset or immediately after stopping the machine. Otherwise it may cause serious burns.
- Do not open the radiator cap unless the coolant has been cooled down completely. First loosen the cap and release the air pressure, then open it entirely.
- Do not add fuel or oil during genset operation or shortly after shutdown, only process it when the machine is cooled down. Keep sparks, open flame or any form of ignition well away when refueling for them may cause a fire.
- Do not try to start the engine when the fan protector or other protective devices are disassembled. Never put your hand inside or near these protectors for repair or maintenance when the generator set is running.
- Keep your hands and other body parts away from the hot engine surfaces such as the muffler, exhaust pipe, turbocharger (if equipped) and engine block during operation and shortly after you shut the engine down. These surfaces are extremely hot while the engine is operating and could seriously burn you.
- Keep your hands and other body parts away from moving/rotating parts. Wear tight-fitting clothing and keep your hair short or tie it back while the engine is running.
- Never operate the engine in an enclosed area. All internal combustion engines create carbon monoxide gas during operation. Accumulation of this gas within an enclosure could cause illness or even death.



SO6

CHAPTER 1 — SAFETY INFORMATION

RS-type (4-2)

1000019425-SO2-A1

Operating Instructions

Before starting:

1. Read Operator's Manual.
2. Check oil level.
3. Check ground.
4. Check all tie levels.
5. Check engine oil for correct level and type of oil.
6. Check all wires to ensure no leakage.
7. Check battery and terminals for correct connection.

Manual starting the key start panel:

1. Disconnect all external loads.
2. Turn on the power.
3. Insert the key.
4. Press the start button.
5. Turn the key to "STOP" position.
6. Turn the key to "OFF" position.
7. Turn the key to "ON" position.
8. Turn the key to "TEST" position.

Automatic start and remote start:

1. Read Operator's Manual.

Shipping:

1. Disconnect all external loads.
2. Turn battery to "OFF" position for automatic remote start and remote start.
3. Fill fuel tank.

SAFETY INSTRUCTIONS

Do not operate the machine until you have read the safety instructions. Read Operator's Manual carefully before operating the machine. This machine should only be operated by a person with sufficient knowledge and skill to ensure safe operation. High voltage parts are located inside the control cabinet and control panel. The control and electric panel should be closed before working. The machine parts and no load should be applied with the machine. As the device should be closed and locked before working.

WARNING

- 1. Do not touch the machine parts.
- 2. Do not touch the machine parts.
- 3. Do not touch the machine parts.
- 4. Do not touch the machine parts.

WARNING

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WARNING

PARK AND RUN LEVEL

diesel

WARNING

- 1. Do not touch the machine parts.
- 2. Do not touch the machine parts.
- 3. Do not touch the machine parts.
- 4. Do not touch the machine parts.

WARNING

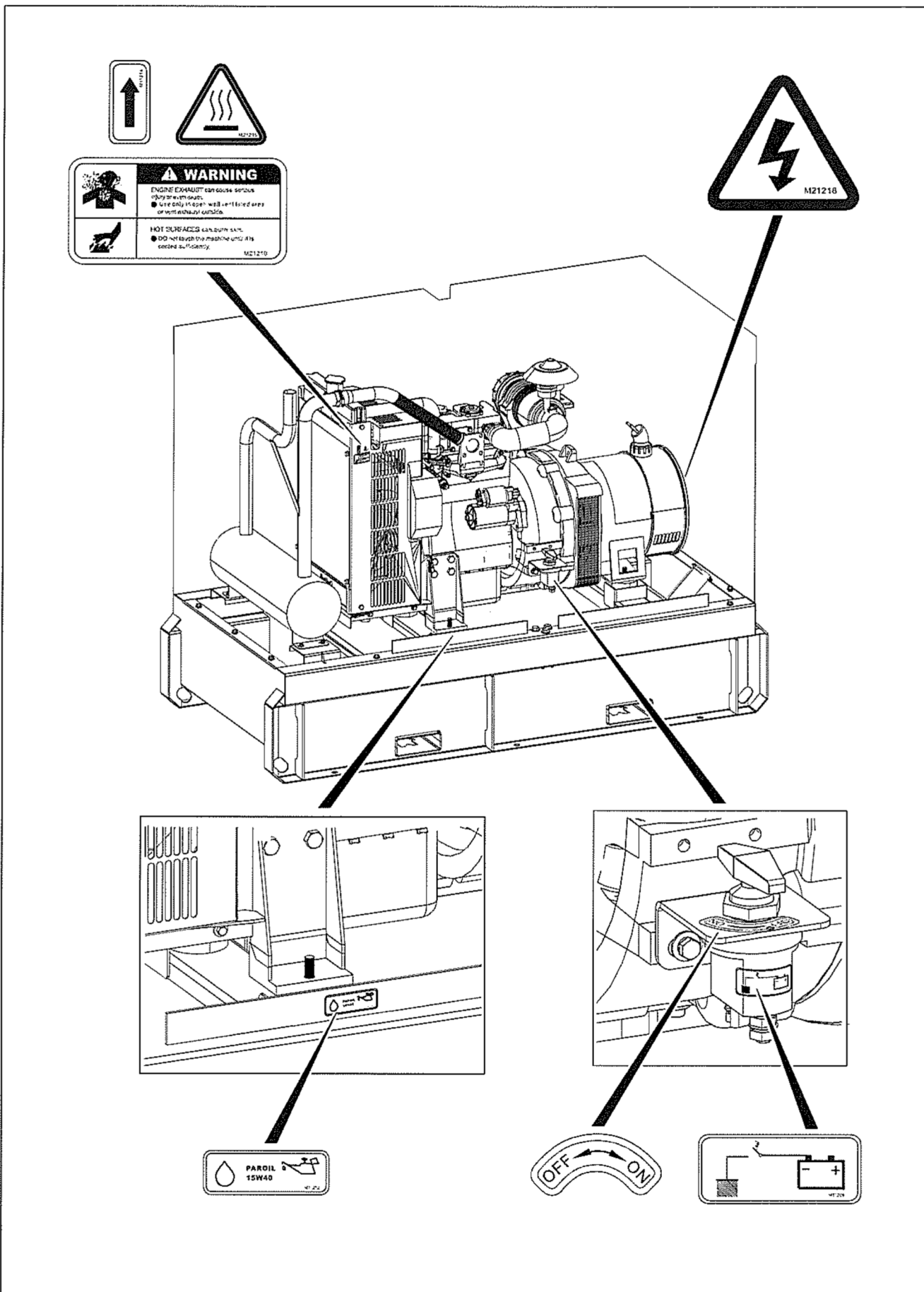
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WARNING

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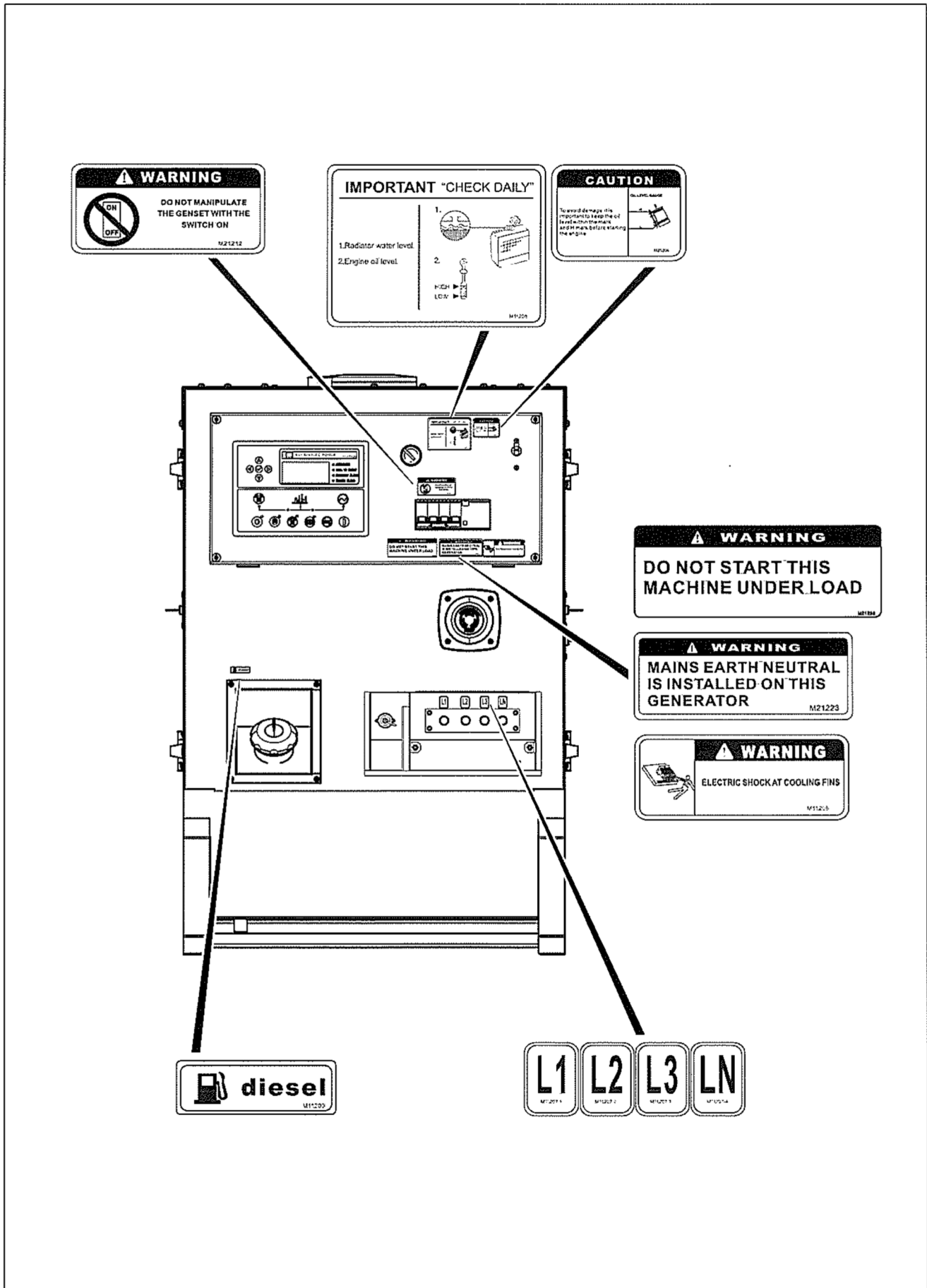
RS-type (4-3)

1000019425-SO3-A1



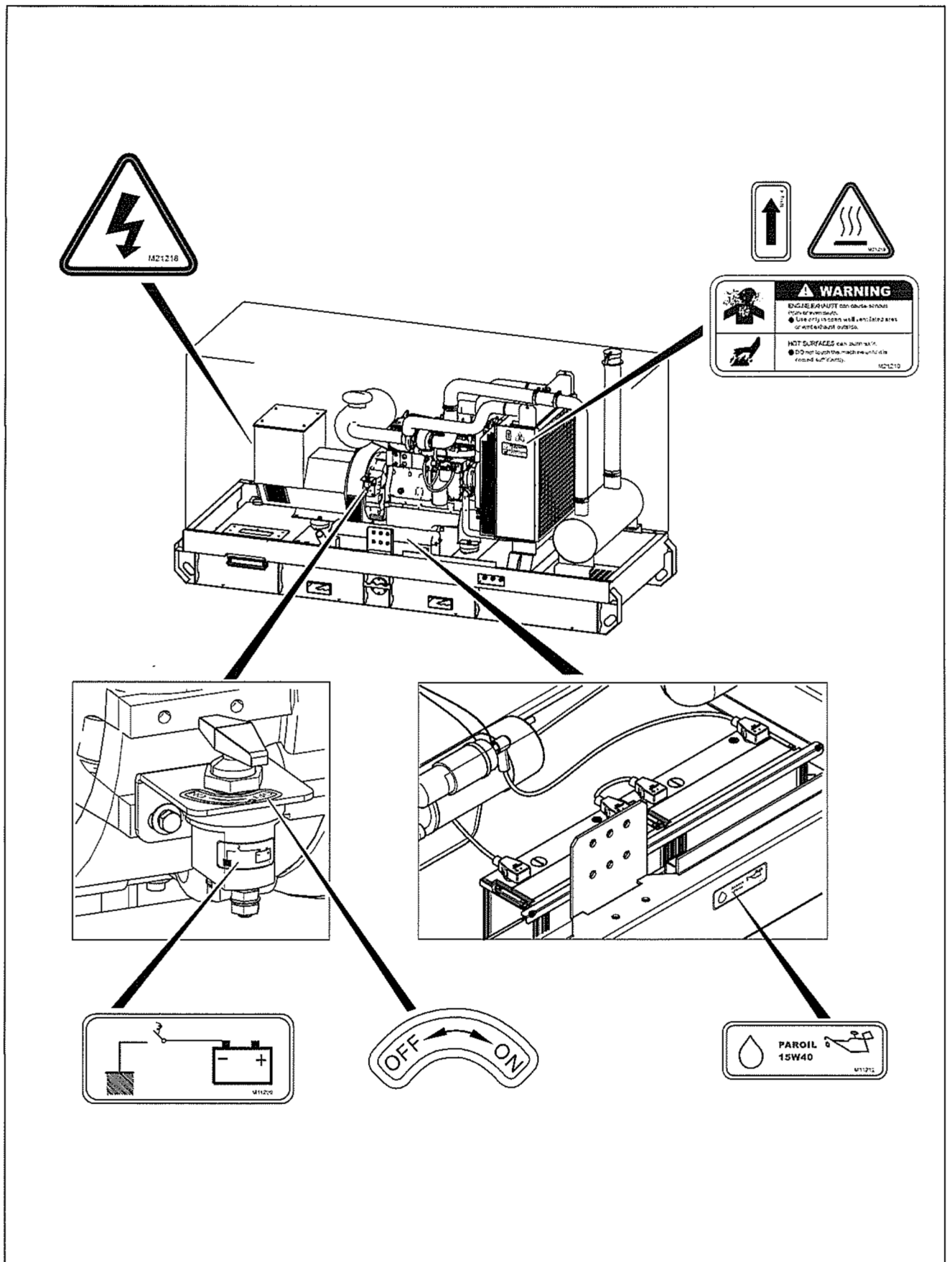
RS-type (4-4)

1000019425-SO4-A1



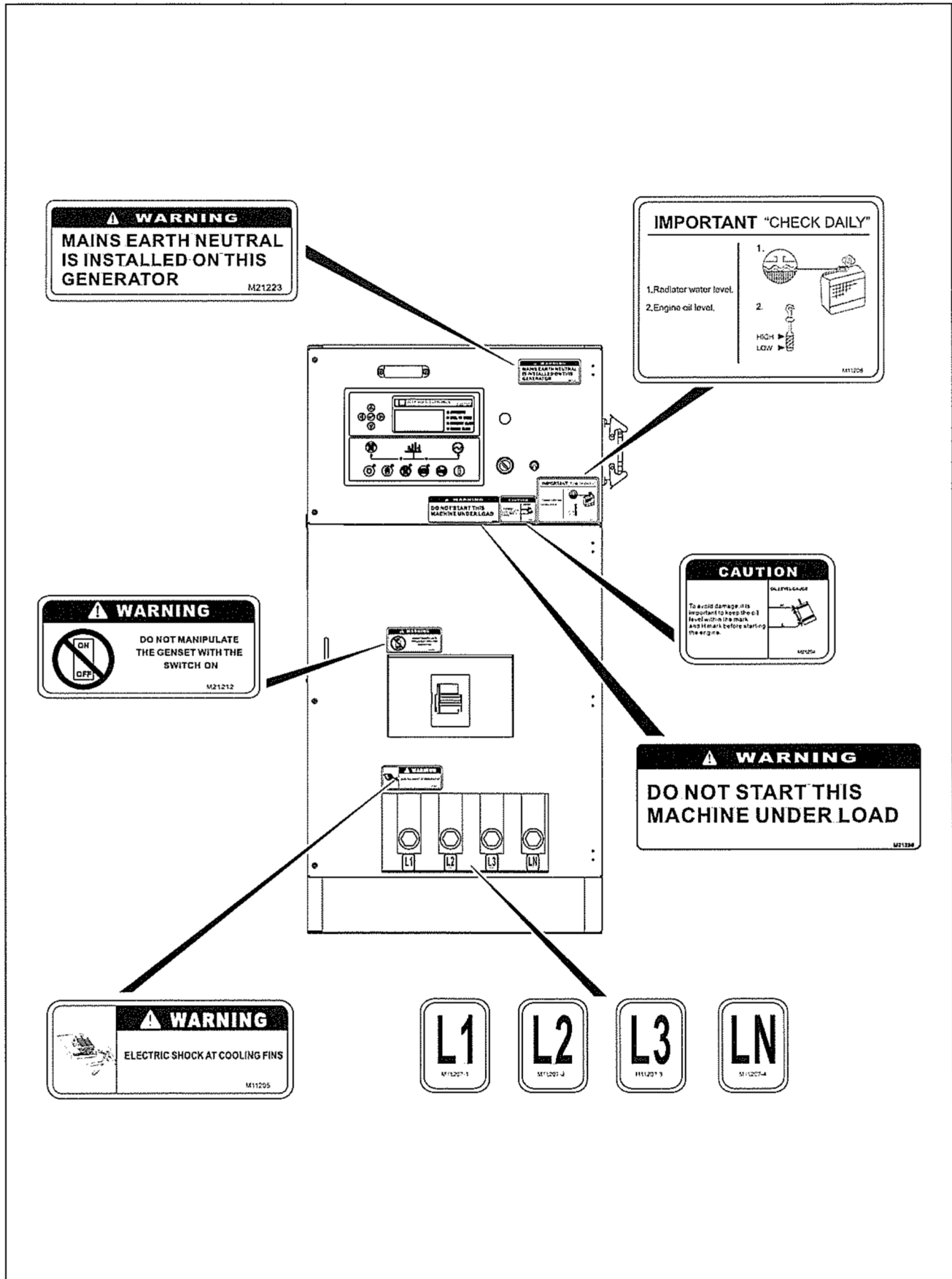
R-type (4-3)

1000008597-SO3-B3



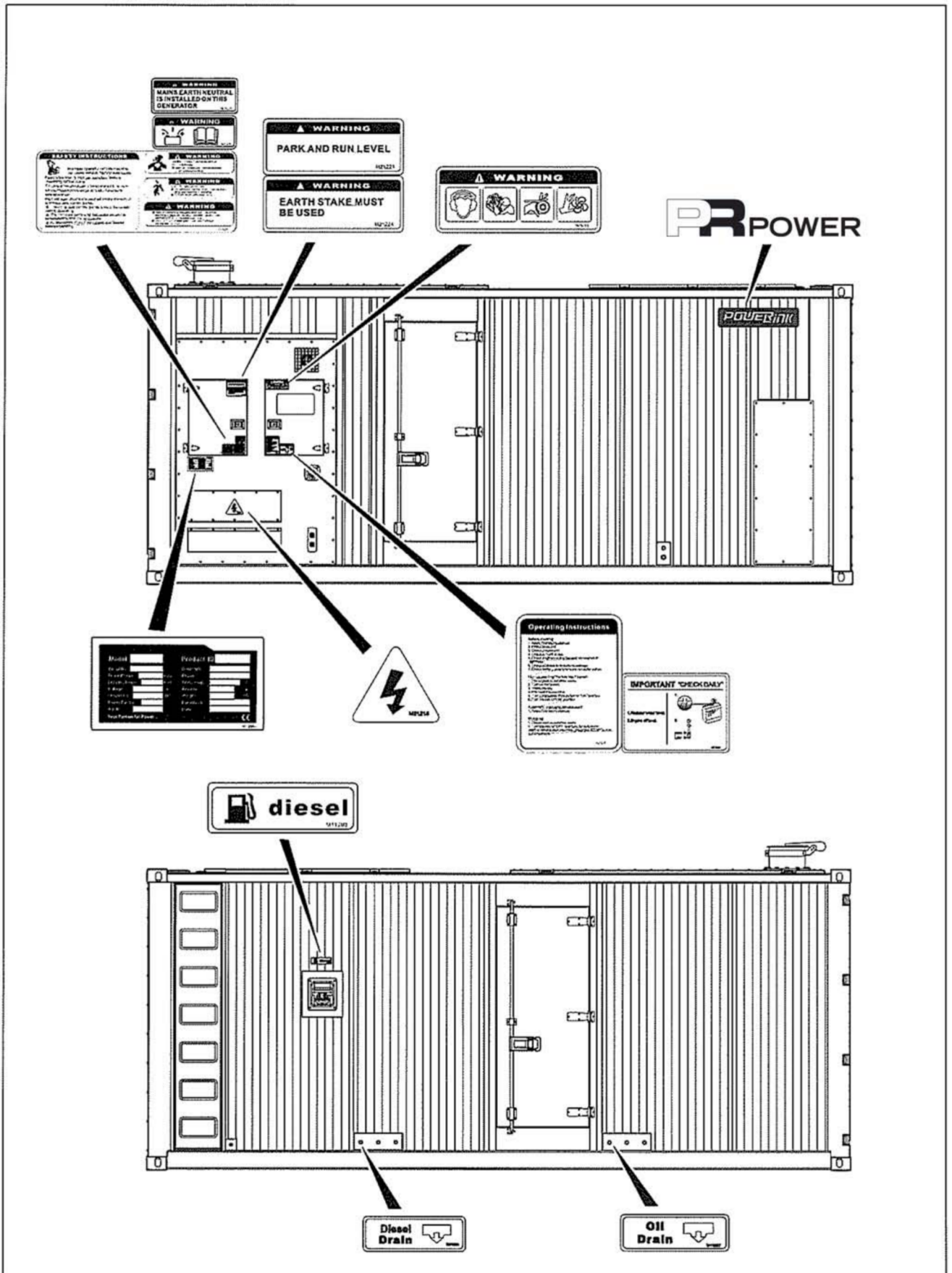
R-type (4-4)

1000008597-SO4-B3



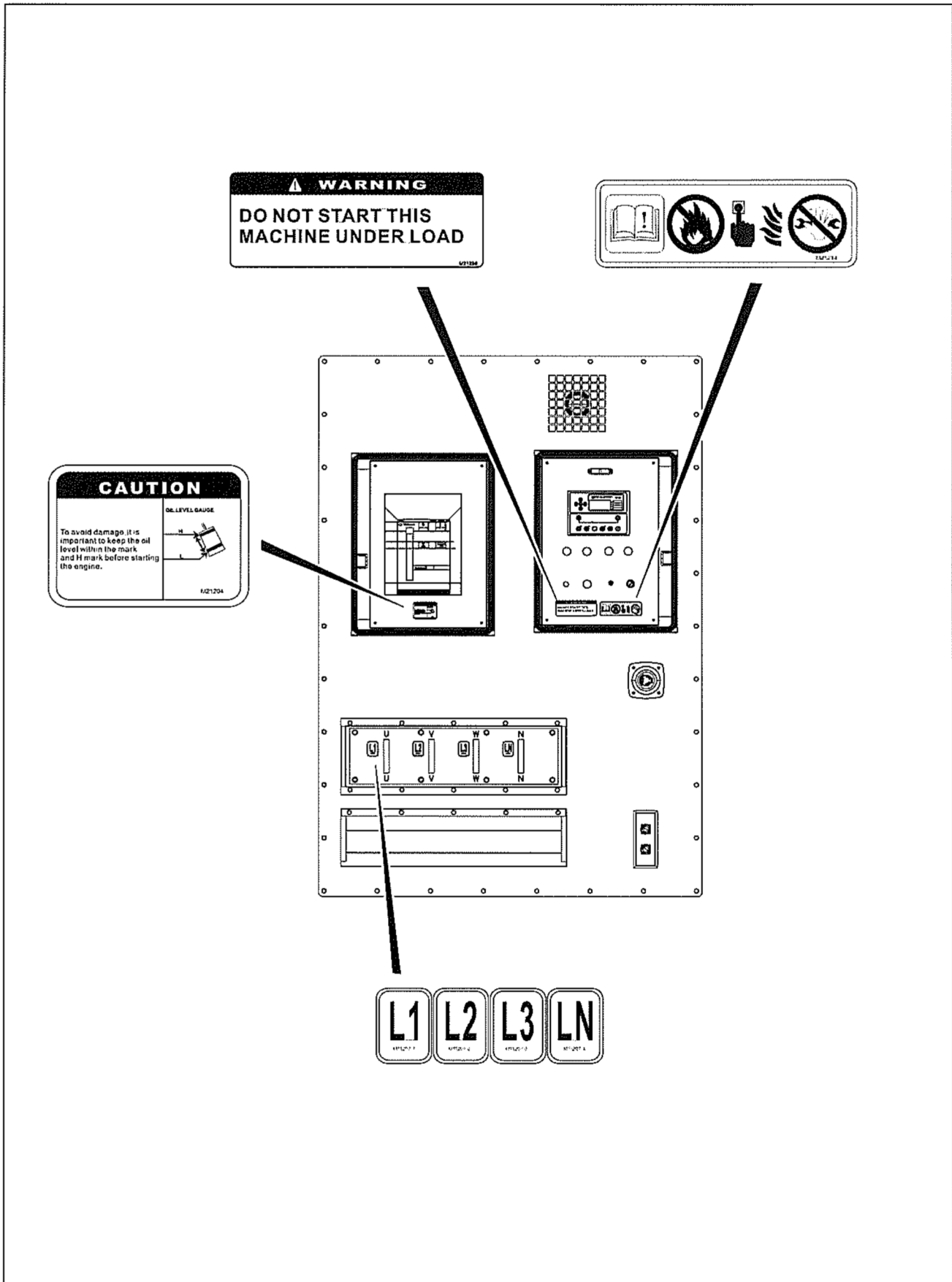
C-type (2-1)

1000020580-SO1-A2



C-type (2-2)

1000020580-SO2-A2



1.3 Safety Label Meaning

CAUTION

Operating Instructions

Before starting

1. Read Operator's Manual
2. Check level unit.
3. Check ground unit.
4. Check all fluid levels.
5. Check engine cooling fan and rap defree of tightness.
6. Check all pipes to ensure no cauterization.
7. Check battery pole to ensure no cauterization.

Manual starting(for key start panel)

1. Disconnect all external loads
2. Turn on the power.
3. Insert the key.
4. Pre-heat the machine.
5. Turn Emergency Stop button to "DN" position.
6. Turn the key to "ON" position.

Automatic start and remote start:

1. Read Operator's Manual.

Stopping:

1. Disconnect all external loads
2. Turn the key to "OFF" position for automatic start or remote start machine,press the "STOP" button.
3. Fill fuel tank.

M21211

M21211

CAUTION

Before starting:

1. Read Operation Manual.
2. Check level unit.
3. Check ground unit.
4. Check all fluid levels.
5. Check engine cooling fan and belt tightness.
6. Check all pipes to ensure no cauterization.
7. Check battery pole to ensure no cauterization.

Manual starting(for key start panel):

1. Disconnect all external loads.
2. Turn on the power.
3. Insert the key.
4. Pre-heat the machine.
5. Reset the Emergency Stop button.
6. Turn the key to "ON" position.


Automatic start and remote start:

1. Refer to Operation Manual.

Stopping:

1. Disconnect all external loads.
2. Turn the key to "OFF" position,for automatic start or remote start machine,press the "STOP" button.
3. Fill fuel tank.

CAUTION



M21214

M21214

CAUTION

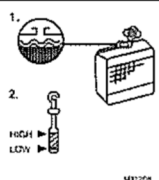
- Read the Operation Manual.
- No sparks,flames,or burning objects near the machine.
- Press the emergency stop switch when an emergency occurs.
- Do not dismantle the genset at will.

CAUTION

IMPORTANT "CHECK DAILY"

1. Radiator water level

2. Engine oil level




HIGH
LOW

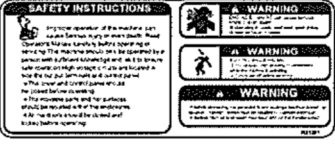
M11208

M11208

CAUTION

1. Radiator water level.
2. Engine oil level.


WARNING



M21201

SAFETY INSTRUCTIONS

Improper operation of this machine can cause serious injury or even death. Read Operation Manual carefully before operating or servicing. This machine should only be operated by a person with sufficient knowledge and skill to ensure safe operation. High voltage circuits are located inside the output terminals and control panel.

- The cover and control panel should be closed before operating.
- The movable parts and hot surfaces should be isolated within the enclosures.
- All the doors should be closed and locked before operating.

WARNING


ENGINE EXHAUST can cause serious injury or even death.

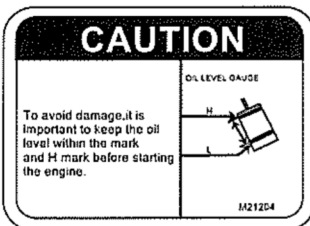
- Use only in open, well ventilated areas or vent exhaust outside.

ELECTRIC SHOCK HAZARD

- Do not touch internal wiring or connections while this machine is operating.
- Turn power off before servicing.

- Before connecting this generator to any electrical system in a building, an independent (transfer) power switch must be installed by licensed electrician.
- Serious injury or even death may result without this transfer switch.



CAUTION




M21204

CAUTION

- To avoid damage, it is important to keep the oil level within the L mark and H mark before starting the engine.


WARNING




M21208

WARNING

- Disconnect battery before servicing.
- Read the Operation Manual for the battery instructions.

WARNING




M21203

WARNING

- Do not remove the pressure cap from a hot engine until the coolant temperature is below 50°C [120°F]
- Heated coolant spray or steam can cause severe scald.

WARNING



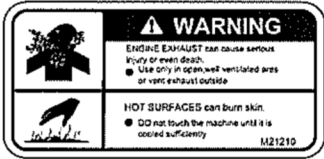
M21213

WARNING

Pay attention to following things after opening the access door when the machine is running:

- Wear ear protections.
- Do not inhale exhaust gas from engine.
- Do not touch the pulley on engine.
- Do not touch the cooling fan on engine.

WARNING



M21210

WARNING

ENGINE EXHAUST can cause serious injury or even death.

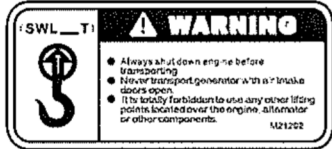
- Use only in open, well ventilated areas or vent exhaust outside.

WARNING

HOT SURFACES can burn skin.

- DO not touch the machine until it is cooled sufficiently.

WARNING



M21202

WARNING

- Always shut down engine before transporting.
- Never transport generator with air intake doors open.
- It is totally forbidden to use any other lifting points located over the engine, alternator or other components.

WARNING




M21221

WARNING

- PARK AND RUN LEVEL

WARNING




M21236

WARNING

- Do not start this machine under load.

CAUTION




M21219

CAUTION

- Hot surface!

DANGER



Danger
High Voltage

M21216

DANGER

- High Voltage!
- Please don't get close to it when the machine is running.

WARNING



M21224

WARNING

- Earth stake must be used

WARNING




M21212

WARNING

- Do not manipulate the genset with the switch on.

WARNING



M21223

WARNING

- The generator set has been equipped with live, ground and neutral wires.

WARNING

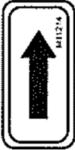


M21217

WARNING

- Never use it as a lifting lug to lift the whole genset.

WARNING




M11214

WARNING

- The rotating direction of the cooling fan when it runs.

NOTE



M11203

NOTE

- Fuel inlet

NOTE

PAROIL
15W40

Diesel
Drain

Waste
Drain

Oil
Drain

M11212

- NOTE**
- Engine oil inlet
 - Diesel drain
 - Waste drain
 - Engine oil drain

NOTE

M11207

- NOTE**
- Live wires (L1, L2, L3) and neutral wire (LN)

NOTE

M11250

- NOTE**
- Nameplate of the generator set, there are some main information and parameters about the machine, such as Model, Serial No, Product ID, Ampere, Voltage, Frequency, Dimension and Weight etc.

NOTE

M11209

- NOTE**
- Battery negative switch

NOTE

M21205

- NOTE**
- Forklift channel

NOTE

M11201

- NOTE**
- Ground bolt; connect it to the ground before starting the genset.

NOTE

Logo

- NOTE**
- Logo of the generator set's manufacturer

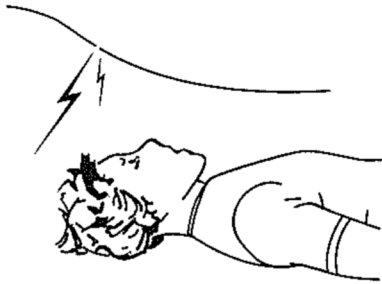
1.4 First Aid

1



Occurrence of electric shock

First aid must be taken in the right way at once to the person who gets an electric shock to the ground by electricity.



2

Get the victim rid of electricity

Turn off all the power first if possible and then wear personal protective equipment such as insulating gloves and insulating boots and use special insulating device such as insulating sticks to get the victim rid of the power and far away from the electricity.



3

Keep breathing expeditely

Tilt the victim's head back and raise his/her chin to take the external things such as false teeth and cachou out of his/her mouth to keep breathing expeditely.



S07

4

Artificial respiration

Check the breathing status of the victim via looking, listening and feeling. If the victim breathes faintly, artificial respiration should be taken immediately.

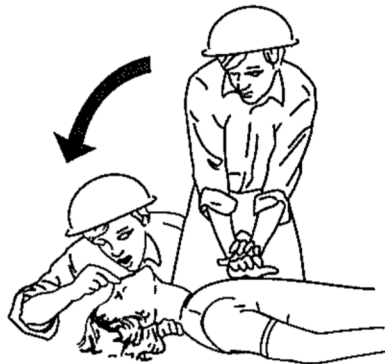
During artificial respiration, pinch the victim's nose and seal your lips tightly around the victim's mouth. You should exhale to him/her after deep inspiration every 1~2 seconds.



5

Cardiopulmonary resuscitation

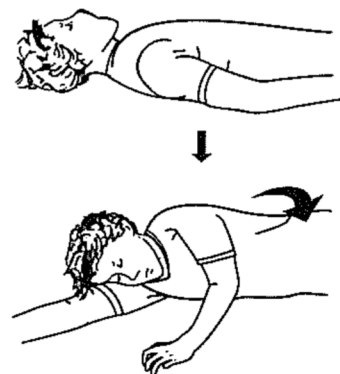
If the victim is unresponsive with no breathing or only gasps, CPR should be adopted. When doing CPR, you should press on the victim's chest 80 times per minute to stimulate the action of the victim's heart and do artificial respiration twice after every 15 times of CPR.



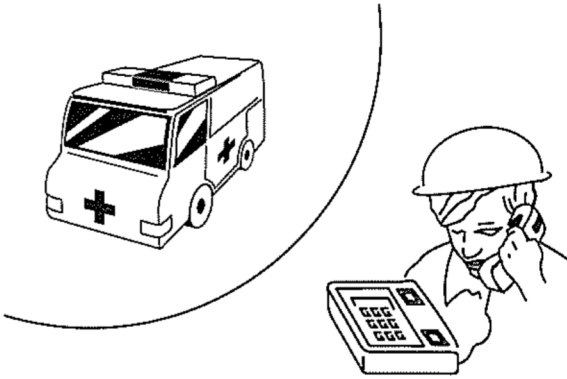
6

In case of the breath recovering

Roll the victim to get him/her lateral to keep him/her breathing expedately if his/her breath is recovered. Check the victim's breath and pulse at intervals and find out whether there is something unusual occurs. If there is, rescue the victim according to the measures above.



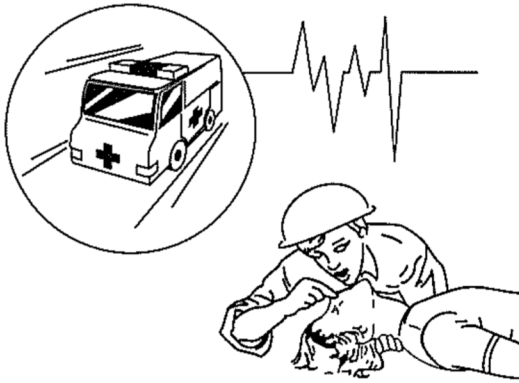
7



In case of the breath not recovering

If the circs isn't going better, call the ambulance for help and keep the other person stay with the victim to watch out for him/her.

8



Before the ambulance comes

Before the ambulance comes, keep the victim's head tilted back, pinch his/her nose, do artificial respiration every 5 seconds, observe the breathing status of the victim and check carotid pulse every 5~10 seconds. Keep artificial respiration operating if the victim still has a pulse, but is not breathing (respiratory arrest).

S09