

WARNING 20 KW TOWABLE GENERATOR

Any piece of equipment can be dangerous if not operated properly. **YOU** are responsible for the safe operation of this equipment. The operator must carefully read and follow any warnings, safety signs and instructions provided with or located on the equipment. Do not remove, defeat, deface or render inoperable any of the safety devices or warnings on this equipment. If any safety devices or warnings have been removed, defeated, defaced or rendered inoperable, **DO NOT USE THIS EQUIPMENT!!!**

Generator Grounding

To guard against electrical shock and possible damage to the equipment, it is mandatory to provide a good EARTH ground. Use a continuous length of splice-free copper cable, no smaller than AWG#8.

Don't connect the generator directly to your home's or businesses wiring.

Connecting a portable electric generator directly to your household or businesses wiring can be deadly to you and others. A generator that is directly connected to your wiring can 'back feed' onto the power lines connected to your home or business.

Utility transformers can then "step-up" or increase this back feed to thousands of volts enough to kill a utility lineman making outage repairs a long way from your house. You could also cause expensive damage to utility equipment and the generator.

The only safe way to connect a portable electric generator to your existing wiring is to have a licensed electrical contractor install a transfer switch. The transfer switch transfers power from the utility power lines to the power coming from your generator.

Always wear shoes or boots that been tested by the American Society of Testing and Materials that have been given their Electrical Hazard safety designation.

⚠️ WARNING: Operating, servicing and maintaining this equipment can expose you to chemicals including engine exhaust, carbon monoxide and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize your exposure, avoid breathing exhaust, do not idle the engine except as necessary, operate and service your equipment in a well-ventilated area and wear gloves or wash your hands frequently when servicing your equipment. For more information go to www.P65warnings.ca.gov

IMPORTANT SAFETY RULES TO FOLLOW

1. This equipment uses high-voltage circuits capable of causing serious injury or death! Exercise extreme caution around any electrical components when operating this unit. Only a qualified electrician should perform installation and any work performed on this unit.
2. **NEVER** touch **OUTPUT TERMINALS** during operation and **Never make electrical connections with the unit running.** This is extremely dangerous. Always stop the machine when contact with the output terminals is required.
3. **NEVER** use damaged or worn cables when connecting power tools or equipment to the generator. Make sure power-connecting cables are securely connected to the generator's output terminals, insufficient tightening of the terminal connections may cause damage to the generator and electrical shock.
4. Persons should not operate this equipment under 18 years of age.
5. **NEVER** operate this equipment without proper protective clothing, eye protection, ASTM rated EH boots and other protective devices required by the job.
6. **NEVER** operate this equipment when not feeling well due to fatigue, illness or taking medicine.
7. **NEVER** operate this equipment under the influence of drugs or alcohol.
8. **NEVER** change the position of the **GENERATOR VOLTAGE SELECTOR SWITCH** while the unit is running! This will result in immediate damage to the switch, generator, or the connected apparatus, and may cause serious injury to operating personnel.
9. **NEVER** start the generator set with the **MAIN GENERATOR CIRCUIT BREAKER IN THE "ON" POSITION.**
10. **NEVER** shut down the unit with the **MAIN GENERATOR CIRCUIT BREAKER IN THE "ON" POSITION.** And never shut the generator off when it is under a load. This will cause damage to generator and the connected apparatus.
11. Provide adequate ventilation when operating the generator. Diesel engines consume oxygen and give off deadly carbon monoxide gas.
12. Before placing the unit in operation, verify the electrical rating of the Generator Set and do not exceed generator set ratings.

REFUELING & MAINTENANCE

Warning: The Customer is responsible for all damages resulting from lack of fuel or lubrication. Check the motor oil, coolant and hydraulic oil every time you refuel the equipment.

REFUELING

Stop the engine and shut off electrical equipment while filling the fuel tank. Use extra caution when fueling a hot engine. Always ground the fuel nozzle against the filler neck to avoid sparks. **NEVER SMOKE** while handling fuels.

COOLING SYSTEM

Keep the radiator free of debris. If at any time the motor overheats, shut it off and call us immediately.

Danger: *Never remove the radiator cap on a hot engine the liquid is under pressure, extremely hot and will cause serious burns.* Liquid cooling systems build up pressure, as the engine gets hot. Before removing the radiator cap, stop the engine and let the system cool. Remove the radiator cap only after the system is cold.

For cooling systems with an overflow tank, the coolant can usually be checked at the tank without removal of the radiator cap.

If the person receiving this handout will not be the user of the equipment, forward these instructions to the operator. If there is any doubt as to the operation or safety of the equipment, **DO NOT USE!!! CALL A TOOL SHED IMMEDIATELY!!!**

FAILURE TO FOLLOW THESE INSTRUCTION COULD RESULT IN INJURY OR DEATH

VOLTAGE SELECTOR SWITCH OPERATION

Generator sets rated from 20kw through 150kw are equipped with a three-phase **HI/LO VOLTAGE SELECTOR SWITCH**. This switch has three (3) positions marked "3 Phase 480/277", "3 Phase 240/139" and "1 Phase 240/120", and each position delivers a different output voltage to the **DISTRIBUTION LUGS**. The **SELECTOR SWITCH** and **DISTRIBUTION PLUGS** are located on the **DISTRIBUTION PANEL**. The following instructions should be considered when operating the **VOLTAGE SELECTOR SWITCH**.

1. Always make sure the **VOLTAGE SELECTOR SWITCH** has been set to the desired range before starting the generator set.
2. The **VOLTAGE SELECTOR SWITCH** does not control the single-phase receptacles of the **VOLTAGE SELECTOR SWITCH** setting. The selector switch has two positions, and each position gives a different output to the **THREE-PHASE DISTRIBUTION LUGS** (designated as "L1", "L2", "L3", and "N") located on the **DISTRIBUTION PANEL**.

In the three-phase "HI" position, the following will be the normal output voltages:

1. **LINE-TO-LINE ("L1" TO "L2" TO "L3")** **480VAC/3P**
2. **LINE-TO-NEUTRAL ("L1", "L2", OR "L3" TO "N")** **277VAC/1P**

NOTE: This three-phase wiring configuration is generally referred to as HI Wye.

In the three-phase "LO" position, the following will be the normal output voltages:

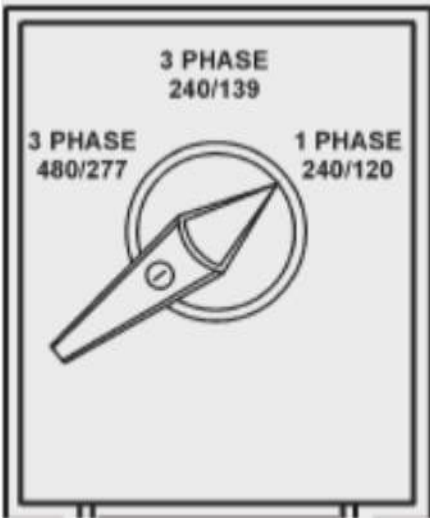
1. **LINE-TO-LINE ("L1" TO "L2" TO "L3")** **240VAC/3P**
2. **LINE-TO-NEUTRAL ("L1", "L2", OR "L3" TO "N")** **139VAC/1P**

NOTE: The above voltages can be "dialed down", or adjusted lower, by using the voltage adjustment potentiometer located on the generator **CONTROL PANEL**.

In the three-phase "LO" position (with the voltage adjusted down), the following will be the output voltages:

1. **LINE-TO-LINE (Adjusted)** **208VAC/3P**
2. **LINE-TO-NEUTRAL (Adjusted)** **120VAC/1P**

NOTE: This three-phase wiring configuration known as "LO" Wye. Once required voltages are known, then the combination of the proper switch position and voltage adjustment potentiometer allows for fine-tuning the voltage to the exact needs of the application.



Important Operating Notice

If you are unfamiliar with this model generator or need more in depth operating information always refer to the manufacturer's operators manual located in its designated box on the generator.

Note: If this manual is not available or illegible **Stop Do Not Operate the Generator!** Call A Tool Shed Immediately and we will bring you a manual.