

Rental Generator Safety Guidelines

DANGER! - READ THIS DOCUMENT

General Safety:

- **DO NOT** operate or service this equipment before reading this entire document.
The operator **MUST BE** familiar with proper safety precautions and operations techniques before using generator.
- This equipment should not be operated by persons under 18 years of age.
- **NEVER** operate this equipment without proper protective clothing, shatterproof glasses, steel-toed boots and other protective devices required by the job.
- **NEVER** operate this equipment when not feeling well due to fatigue, illness or taking medicine.
- **NEVER** operate this equipment under the influence of drugs or alcohol.
- **NEVER** use accessories or attachments, which are not recommended for this equipment. Damage to the equipment and/or injury to user may result.
- Clifford Power Systems, Inc.® does not assume responsibility for any accident due to equipment modifications. Unauthorized equipment modification will void all warranties.
- Failure to follow instructions in this document may lead to **serious injury** or even **DEATH!** This equipment is to be operated by trained and qualified personnel only! This equipment is for industrial use only.
- **ALWAYS** check the machine for loosened threads or bolts before starting.
- **NEVER** operate the generator in an explosive atmosphere or near combustible materials. An explosion or fire could result causing severe **bodily harm or even death.**
- **NEVER** touch the hot exhaust manifold, muffler or cylinder. Allow these parts to cool before servicing engine or generator.
- **High Temperatures** – Allow the engine to cool before performing service and maintenance functions. Contact with hot! components can cause serious burns.
- The engine of this generator requires an adequate free flow of cooling air. **NEVER** operate the generator in any enclosed or narrow area where free flow of the air is restricted. If the air flow is restricted it will cause serious damage to the generator or engine and may cause injury to people. The generator engine gives off **DEADLY** carbon monoxide gas.
- **DO NOT** place hands or fingers inside the generator engine compartment when the engine is running.
- **DO NOT** run engine without air filter. Severe engine damage may occur.
- **DO NOT** leave the generator running in the manual mode unattended.
- **ALWAYS** store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children.

Towing & Transporting Safety:

To reduce the possibility of an accident while transporting the generator on public roads, always make sure the trailer that supports the generator and the towing vehicle are in good operating condition and both units are mechanically sound.

The following list of safety precautions should be followed when towing your generator:

- **ALWAYS** shutdown engine before transporting.
- Tighten fuel tank caps securely.
- If generator is mounted on a trailer, make sure trailer complies with all local and state safety transportation laws. Follow the listed **Towing & Transporting Safety** guidelines for basic towing techniques.
- Make sure the hitch and coupling of the towing vehicle are rated equal to, or greater than the trailer "gross vehicle weight rating."
- **ALWAYS** inspect the hitch and coupling for wear. **NEVER** tow a trailer with defective hitches, couplings, chains etc.
- Check the tire air pressure on both towing vehicle and trailer. **Trailer tires should be inflated to manufacturer's recommendation.** Also check the tire tread wear on both vehicles.
- **ALWAYS** make sure the trailer is equipped with a "Safety Chain".
- **ALWAYS** attach trailer's safety chains to towing vehicle properly.
- **ALWAYS** make sure the vehicle and trailer directional, backup, brake, and trailer lights are connected and working properly.
- DOT Requirements include the following:
 - ▶ Connect and test electric brake operation.
 - ▶ Secure portable power cables in cable tray with tie wraps.
- The maximum speed for highway towing is **55 MPH** unless posted otherwise. Recommended off-road towing is not to exceed **15 MPH** or less depending on type of terrain.
- Place chock blocks underneath wheel to prevent rolling, while parked.
- Use the trailer's swivel jack to adjust the trailer height to a level position while parked.
- Avoid sudden stops and starts. This can cause skidding, or jack-knifing. Smooth, gradual starts and stops will improve towing.
- Avoid sharp turns.
- Trailer should be adjusted to a level position at all times when towing.
- Raise and lock trailer wheel stand in up position when transporting.
- Place support blocks underneath the trailer's bumper to prevent tipping, while parked.
- Avoid sharp turns to prevent rolling.
- Check to make sure generator can be transported with fuel in tank.

CAUTION - FOLLOW TOWING REGULATIONS

Check with your local county or state safety towing regulations, in addition to meeting **Department of Transportation (DOT) Safety Towing Regulations**, before towing your generator.

Generator Grounding:

To guard against electrical shock and possible damage to the equipment, it is important to provide a good **EARTH** ground.

Article 250 (Grounding) of the National Electrical Code (NEC) provides guide lines for proper grounding and specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

The following safety recommendations should also be followed:

- **ALWAYS** make sure generator is properly grounded.
- **NEVER** use gas piping as an electrical ground.
- **ALWAYS** make sure that electrical circuits are properly grounded per the National Electrical Code (NEC) and local codes before operating generator. Severe injury or **DEATH!** by electrocution can result from operating an ungrounded generator.
- **ALWAYS** be sure to use the ground terminal (green wire) when connecting a load to the U, V, and W output terminal lugs.

Electrical Safety:

- **ALWAYS** have a qualified electrician perform the generator wiring installation.
- **ALWAYS** make sure generator installation is accordance with the National Electrical Code (NEC) and local codes before operating generator.
- **NEVER** use a defective or frayed power cable. Check the cable for cuts in the insulation.
- **NEVER** use an extension cord that is frayed or damaged where the insulation has been cut.
- **ALWAYS** make certain that proper extension cord has been selected for the job.
- **NEVER** let power cables or cords lay in water.
- **NEVER** stand in water while AC power from the generator is being transfer to a load.
During operation of this generator, there exists the possibility of electrocution, electrical shock or burn, which can cause severe bodily harm or even **DEATH!** To avoid these hazards:
- **NEVER** use damaged or worn cables when connecting 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.
- **NEVER** grab or touch a live power cord with wet hands or touch output terminals during operation. This is extremely dangerous.
- **ALWAYS** stop the machine and place the circuit breaker in the **OFF** position when contact with the output terminals is required.

WHEN CONNECTING TO A BUILDING OR BACKING UP ANOTHER POWER SOURCE

Backfeed to a utility system can cause electrocution and or property damage. **DO NOT** connect to any building's electrical system except through an approved device or after building main switch is opened. **ALWAYS** have a licensed electrician perform the installation

Maintenance Safety:

- The electrical voltage required to operate the generator can cause severe injury or even death through physical contact with live circuits. Turn all circuit breakers **OFF** before performing maintenance on the generator.
- **NEVER** lubricate components or attempt service on a running machine.
- **ALWAYS** disconnect the **NEGATIVE battery terminal** before performing service on the generator.
- Follow all Battery Safety Guidelines listed in this manual when handling or servicing the generator.
- **ALWAYS** allow the machine a proper amount of time to cool before servicing.
- Keep the machinery in proper running condition.
- Fix damage to the machine immediately and always replace broken parts.
- **ALWAYS** service air cleaner frequently to prevent engine malfunction.

WARNING - BURN HAZARDS

- To prevent burns, **DO NOT** touch or open any of the below mentioned components while the engine is running or immediately after operations. Always allow sufficient time for the engine and generator to cool before performing maintenance.
- **Radiator Cap** - Removing the radiator cap while the engine is hot will result in high pressurized, boiling water to gush out of the radiator, causing severe scalding to any persons in the general area of the generator.
 - **Coolant Drain Plug** - Removing the coolant drain plug while the engine is hot will result in hot coolant gushing out of the coolant drain plug, therefore causing severe scalding to any persons in the general area of the generator.
 - **Engine Oil Drain Plug** - Removing the engine oil drain plug while the engine is hot will result in hot oil gushing out of the oil drain plug, therefore causing severe scalding to any persons in the general area of the generator.

Battery Safety:

Use the following guidelines when handling the battery:

- The battery contains acids that can cause injury to the eyes and skin. To avoid eye irritation, **always** wear safety glasses.
- Use well insulated gloves when picking up the battery.
- **ALWAYS** keep the battery charged. If the battery is not charged a buildup of combustible gas will occur.
- **ALWAYS** keep battery charging cables in good working condition. Repair or replace all worn cables.
- **ALWAYS** recharge the battery in a vented air environment, to avoid risk of a dangerous concentration of combustible gases.
- In case the battery liquid (dilute sulfuric acid) comes in contact with **clothing or skin**, rinse skin or clothing immediately with plenty of water.
- In case the battery liquid (dilute sulfuric acid) comes in contact with your **EYES**, rinse eyes immediately with plenty of water and contact the nearest doctor or hospital to seek medical attention.

DANGER – BATTERY EXPLOSION HAZARDS

The risk of an explosion exists when performing service on the battery. To avoid **severe injury** or **DEATH**:

- **DO NOT** drop the battery. There is the possibility of risk that the battery may explode.
- **DO NOT** expose the battery to open flames, sparks, cigarettes etc. The battery contains combustible gases and liquids. If these gases and liquids come in contact with a flame or spark, an explosion could occur.

Emergencies:

- **ALWAYS** know the location of the nearest fire extinguisher.
- **ALWAYS** know the location of the nearest and first aid kit.
- **ALWAYS** know the location of the nearest phone or keep a phone on the job site, in case of emergencies.
- **ALWAYS** have easy access to the phone numbers of the nearest **Ambulance, Doctor and Fire Department**. This information will be invaluable in the case of an emergency.
- **CONTACT Clifford Power Systems, Inc.® if an emergency occurs.**