

Portable Generators

Portable generators are useful when temporary or remote electric power is needed, but they also can be hazardous. The primary hazards to avoid when using a generator are carbon monoxide (CO) poisoning from the toxic engine exhaust, electric shock or electrocution, and fire. Every year, people die in incidents related to portable generator use.

Carbon Monoxide Hazard

Never use a portable generator in an enclosed or partially enclosed space. Portable generators can produce high levels of CO very quickly. When you use a portable generator, remember that you cannot smell or see CO. Even if you cannot smell exhaust fumes, you may still be exposed to CO. If you start to feel sick, dizzy, or weak while using a portable generator, get to fresh air **right away**. Alert others in the home or in the vicinity to get to fresh air. **Do not delay**. The CO from portable generators can rapidly lead to full incapacitation and death.

If you experience serious symptoms, get medical attention immediately. Inform medical staff that CO poisoning is suspected. If you experienced symptoms while indoors, have someone call the fire department to determine when it is safe to reenter the building.

Follow these safety tips to protect against CO poisoning:

- **Never** use a portable generator indoors, including in homes, garages, basements, crawl spaces, and other enclosed or partially enclosed areas, even with ventilation. Opening doors and windows or using fans will not prevent CO buildup.
- Follow the instructions that come with your portable generator. Locate the unit **outdoors** and away from doors, windows, and vents that could allow CO to come indoors.
- Install battery-operated CO alarms or plug-in CO alarms with battery back-up in your home, according to the manufacturer's installation instructions.

Electrical Hazards

Follow these tips to protect against electrical hazards:

- Keep the portable generator dry and do not use it where it could get wet by rain or snow. To protect it from moisture, operate it on a dry surface under an open, canopy-like structure. Dry your hands if they are wet before touching the generator.
- Plug appliances directly into the portable generator. Or, use a heavy-duty, outdoor-rated extension cord that is rated (in watts or amps) at least equal to the sum of the connected appliance loads. Check that the entire cord is free of cuts or tears and that the plug has all three prongs, especially a grounding pin.
- **Never** try to power the home wiring by plugging the portable generator into a wall outlet, a practice known as "backfeeding" This is an extremely dangerous practice that presents an electrocution risk to utility workers and neighbors served by the same utility transformer. It also bypasses some of the built-in household circuit protection devices.
- If you must connect a portable generator to the home wiring to power appliances, have a qualified electrician install the appropriate equipment in accordance with local electrical codes. Or, check with your utility company to see if it can install an appropriate power transfer switch.
- For power outages, permanently installed stationary generators are better suited for providing backup power to a home. Even a properly connected portable generator

can become overloaded. This may result in overheating or stressing the generator components, possibly leading to a generator failure.

Fire Hazards

Follow these tips to protect against fire hazards:

- Never store fuel for your portable generator in the home. Gasoline, propane, kerosene, and other flammable liquids should be stored outside of living areas in properly labeled, non-glass, safety containers. Do not store them near a fuel-burning appliance, such as a natural gas water heater in a garage. If the fuel is spilled or the container is not sealed properly, invisible vapors from the fuel can travel along the ground and can be ignited by the appliance's pilot light or by arcs from electric switches in the appliance.
- Before refueling a portable generator, turn it off and let it cool down. Gasoline spilled on hot engine parts could ignite.