

# Operate a Portable Generator Safely

*Ensure your backup power supply is off the grid by installing a double-throw transfer switch*

*By Pam Blair*

**D**espite your utility's best efforts, occasional interruptions in the supply of electricity are inevitable.

In earlier times, the only options for seeing through the darkness of a power outage used to be lighting a candle, finding a flashlight and patiently waiting by the fireplace.

Today, homeowners have the option to install backup power generators.

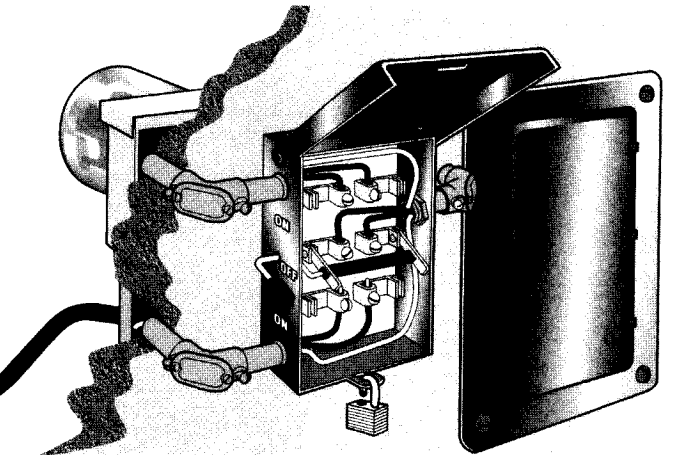
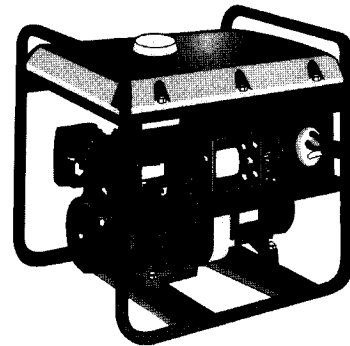
A generator converts energy from fuel—usually gasoline—into electricity. If the generator is large enough, it can run a few appliances and lights.

While a generator makes it more comfortable to endure a power outage, improper use can be deadly.

If you are planning to use a generator, hire a licensed electrician to hard-wire a double-pole, double-throw transfer switch adjacent to your circuit breaker box.

Using a transfer switch eliminates the risk of electrical "backfeed" into power lines, which can kill utility workers repairing downed lines, and damage the generator and any equipment connected to it.

During an outage, shut



off the main breaker, isolating your home from power lines, and connect your generator to the transfer switch.

Once the generator is running, you can choose which appliances and circuits you want to use by flipping the switches.

Because the transfer switch often is wired into more circuits than the generator can handle all at once, keep track of what is being powered.

Before starting the generator, list both the starting and running wattage requirements of everything you want to operate.

Your generator must be rated to handle the total wattage. Since requirements vary with different brands, check the name plate on the appliance.

Running too many things at once can overload your generator, damaging the generator and the appliances.

To ensure safe operation,

be sure to follow these additional tips:

- Place the generator on a level surface. If the generator is not level, fuel may leak from the fuel cap.

- Use an appropriately sized extension cord—usually 10, 12 or 14 gauge. A long or undersized cord could damage the generator and appliances. The lower the number, the thicker the cord and the more electricity it can carry. Don't run it under a rug. Heat can build up and spark a fire.

- Don't run a generator indoors or in an enclosed space, such as a garage or basement. Internal combustion engines produce deadly carbon monoxide gas.

- Fill a gas generator with clean, fresh, unleaded fuel in a well-ventilated area while it is turned off. Keep the fuel level two inches below the top of the fuel tank to allow expansion in hot weather and prevent overflow.

- Use the correct

amount and type of oil. Refer to the engine manual included with your generator. Always check the oil level prior to starting.

- Allow the generator to run approximately two minutes before plugging in extension cords, appliances or equipment. This allows it to reach a proper operating temperature and a constant voltage. Don't start a generator with items already plugged in.

- Start items from the largest power user to the smallest. Keep in mind many items—especially ones with electric motors, such as sump pumps, furnace fans and air conditioners—require a surge of power to get them started.

- To avoid the possibility of a voltage surge, unplug all cords in the reverse order in which they were plugged in (smallest to largest power user), then wait about two minutes before you shut down the generator. ■