

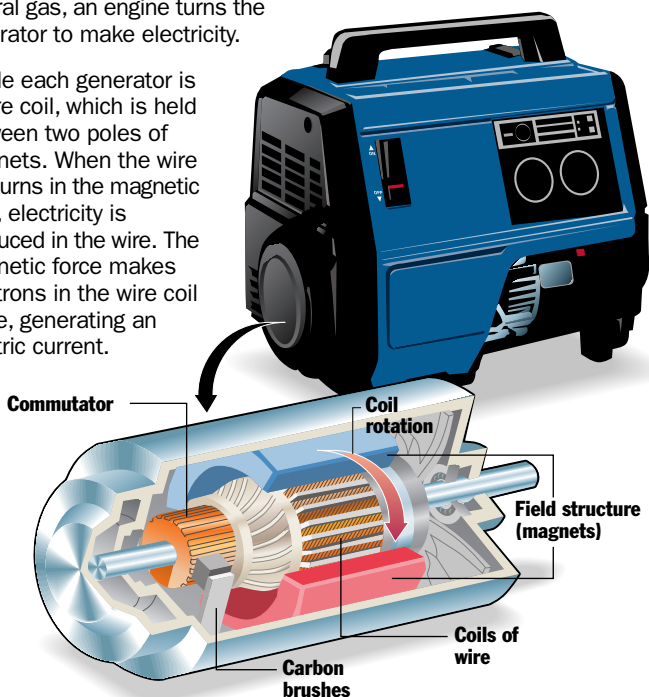
Generating a good idea

When the power goes out and you need to keep the household running, a portable generator will keep electricity going.

How it works

Powered by gasoline, diesel or natural gas, an engine turns the generator to make electricity.

Inside each generator is a wire coil, which is held between two poles of magnets. When the wire coil turns in the magnetic field, electricity is produced in the wire. The magnetic force makes electrons in the wire coil move, generating an electric current.



A direct current (DC) generator has a device called a commutator, for reversing or altering the electric current. This insures that the current always flows the same way instead of alternating – flowing in one direction and then the other.

Selecting a portable generator

Find the wattage of the appliance(s) you want to run by checking the nameplate. Motor-driven appliances, like a refrigerator or freezer, may be listed in horsepower, which must be converted to watts. Motors require four times as much power to start as they do to run. If the running wattage of a motor is 400, then the starting wattage will be 1,600. The following table gives some starting and running wattage for electrical motors:

Motor (horsepower)	Watts required	
	To start	To run
1/6	1,000	215
1/4	1,500	300
1/3	1,600	400
1/2	2,300	575
1	4,000	1,000
5	18,000	4,500
7.5	28,000	7,000
10	36,000	9,000

Safety precautions

■ Because gasoline-powered generators exhaust carbon monoxide, they must be operated outdoors only. Never run one in the garage.

■ Be sure extension cords are adequately sized to handle the electricity.

■ When a generator is connected to the home's wiring system, a common problem is backfeed. It normally happens when plugging the generator into an electrical

outlet and feeding power into the home's electrical system. This poses a potentially fatal shock hazard to anyone working on power lines. To avoid this, simply plug appliances you want powered by the generator directly into the generator. If powering a hard-wire item, like the furnace fan, you will need a transfer switch. The switch should only be installed by a licensed electrician and requires an electrical permit and an electrical inspection.