

Transfer Switches

A transfer switch allows for the switch of power from a primary source to a secondary one or, put another way, from utility power to emergency power. The transfer switches are usually used in conjunction with an emergency back-up power generator and can be either a manual switch, automatic switch, or a combination of manual and automatic.

Whatever the type of transfer switch, they all operate the same way. Transfer switches allow the generator to operate without the threat of the electricity back feeding into the utility lines. They do this by separating the emergency circuits from the utility line during a power outage.

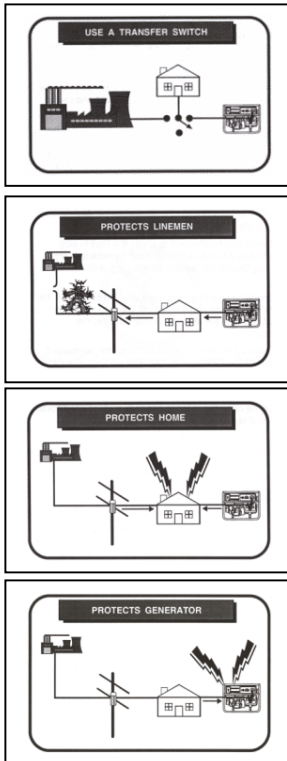
Different specific types of transfer switches are a “break before make” transfer switch, a “closed transition” transfer switch, and a “soft-loading” transfer switch. The difference between these is essentially in how they manage the transfer of power.

Transfer switches provide a critical link between home power generators and their useful applications in emergency situations. When bad weather or other conditions interrupt power service, homeowners often find themselves without the electricity to produce basic human necessities such as light, heat, and refrigeration. While stopgap safety items like flashlights, glow sticks, and fireplaces can fill some of these functions, most appliances can't operate until full power returns.

The situation can become life threatening after a prolonged period, particularly if electric pumps, refrigerators, or climate control are compromised. Emergency backup systems currently available on the market make it possible for homeowners to have continued access to electrical service during power outages. These systems consist either of gas-powered generators or battery-based storage systems.

Transfer switches allow switching from a primary power source to a secondary or tertiary power source and form a critical element of a home's backup power plan. Most often transfer switches can be

seen where emergency power generators are used to back up power from the utility source. The transfer switch allows switching from utility power to emergency generator power.



A transfer switch prevents both the utility power and generator power from being connected at the same time.

By preventing generator power from being introduced to the homes' utility lines, workers who are restoring power are protected.

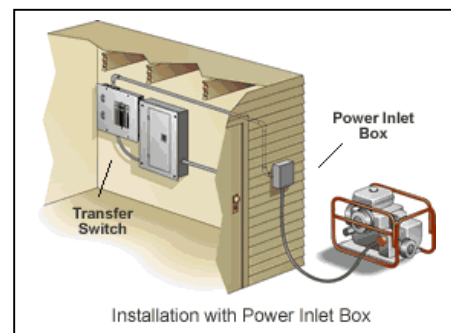
With a properly installed transfer switch, you don't have to worry about when the power comes back on, which can permanently damage electrical equipment. Without a properly installed transfer switch, you also run the risk of damaging your generator when power is restored.

Switches come in three varieties: manual, automatic, or combination. During a power outage, a transfer switch isolates the emergency circuits from the utility line. This allows for efficient operation of the generator without backfeeding. Like a traffic cop, the transfer switch makes sure the home system runs off either generator power or mains power, but never both.

Depending on your generator, power is introduced into certain circuits using transfer switches.

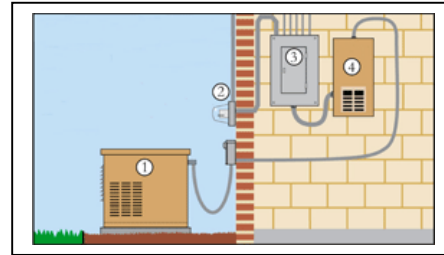
With portable generators, a 'power inlet' is installed, which carries the power from the generator into the home.

While this type of installation is typical, many homeowners find that their



generators cannot be started, have ‘old’ gasoline in them, and they are unable to find the proper cord to connect the generator to the power inlet box.

If you have a permanent pad-mounted generator, the power inlet box is replaced with a junction box, and the electrical connection is permanent. No cords or adapters are needed. This type of installation is highly desired as minimal work is needed during a power outage.



1. Generator
2. Utility service
3. Standard fuse or circuit breaker box
4. Transfer switch and emergency circuits

With an automatic transfer switch, the generator is started as soon as the power goes out, and the circuits attached to the generator continue to be supplied with electricity.

Pad-mounted generators also typically are fueled by the homes’ natural gas or propane source, so there is no need to keep gasoline on hand during an outage. Pad-mount generators with automatic transfer switches also contain ‘exercise clocks’ which run the generator on a weekly basis to maintain the system, thereby ensuring it will perform properly during a power outage.

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