



## **Understanding Electricity**

Electricity has become an indispensable fact of life in today's world. With it we control our comfort and many of the functions of daily life in our homes.

Yet electricity also brings with it the potential for great danger. Inadequate wiring and improper installations can create serious, even lethal conditions. Homeowners should think twice before working with something as dangerous as electricity. Instead, hire a licensed electrician to do all but the simplest tasks. However, it is a good idea to familiarize yourself with the basics to help you operate it safely.

A home's electrical system most often originates at the main distribution panel. It is then divided into branches, called circuits, and connected by wires to wall outlets, appliances, and switches throughout the house.

## **Danger Signs**

Homeowners should be prepared for electrical repairs if any of the following danger signs are observed.

- Dangling wires, overuse of extension cords
- Unsupported cabling
- Overheated wires
- Open junction boxes
- Splices not enclosed in a metal or plastic box
- Heat emanating from switches, outlets, junction boxes or service panels
- Wires past doorways, radiators, under carpets
- Dimming lights

## **Main Distribution Panel**

The main distribution panel is the heart of the electrical system. It is usually located on a wall near the incoming service entrance wire. The service disconnect can be an integral part of this panel, or it can be in a separate panel near the meter. It is essential homeowners know the location of all service disconnects and understand how to use them in the event of an emergency.

## **Power Distribution**

If there are too few circuits or their loads are not distributed properly throughout the house, there may be frequent overloads. This kind of service is unsatisfactory and can be a potential fire hazard. If particular breakers trip regularly or specific fuses blow, an electrician should do a load calculation and make appropriate repairs.

Each circuit in a house should be clearly labeled so the homeowner or others working on the system can tell which breaker or fuse controls specific outlets, appliances or lights.



## **Safety Tips**

1. When in doubt about any electrical project, call a licensed electrician.
2. Never work with or near electricity when hands or feet are damp.
3. Never remove service panel covers.
4. Don't use outlet multiplier plugs to connect lamps and appliances together.
5. Avoid using extension cords. If used never run them across hallways or doorways, under carpeting or furniture, or through walls. Never staple or permanently attach them to any surface.
6. Never replace blown fuses with larger amperage fuses, use the fuse size appropriate for the circuit.
7. Don't cut the grounding (3<sup>rd</sup>) prong off a plug to fit it into a two-hole receptacle outlet.
8. Keep electrical appliances (e.g. hair dryer, radios, shavers, etc.) away from bath tubs, sinks and showers.
9. Replace worn or frayed lamp and appliance wires.
10. Check with your local authorities to find out what electrical projects need permits, and when completed have it inspected and approved by the local authorities.

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