

## Electrical Receptacle Outlets

Electrical receptacle outlets in walls and floors may present shock and electrical fire hazards to consumers. The U.S. Consumer Product Safety Commission estimates that 3,900 injuries associated with electrical receptacle outlets are treated in hospital emergency rooms each year. Approximately a third of these injuries occur when young children insert metal objects, such as hair pins and keys, into the outlet, resulting in electric shock or burn injuries to the hand or finger. CPSC also estimates that electric receptacles are involved in 5,300 fires annually which claim 40 lives and injured 110 consumers.

Older homes may have receptacles which are damaged or which, otherwise, may have deteriorated over the years. In one case of a damaged receptacle, a woman suffered severe burns to her hand as she was plugging in a floor lamp. Part of the plastic faceplate of the outlet had broken away, allowing the prongs of the plug to bridge from the electrical contacts to the grounded strap, resulting in intense electrical arcing.

Outlets also deteriorate from repeated use, from plugging-in and unplugging appliances as is often done in kitchens and bathrooms. As a result, when plugs fit loosely into receptacles, especially the two-prong ungrounded type, they may slip partially or completely out of the receptable

with only slight movement of the attached cord. Receptacles in this condition may overheat and pose a serious fire hazard; if covered by a curtain or drape, the fire hazard is even greater.

Consumers should have a qualified person replace deteriorated and damaged receptacles and, at the same time, upgrade their home electrical system to present safety standards. The simplest and most effective method to protect against electrocution is through the installation of ground-fault circuit interrupters (GFCIs) (as shown in FIGURE 3). If you wish to receive a copy of the Commission's fact sheet on GFCIs, send a postcard to "Ground-Fault Circuit Interrupters, Washington, D.C. 20207," and a copy will be sent promptly.

Another method of protection in the home is to install 3-wire receptacles which will accept either 2- or 3-prong plugs (as shown in FIGURE 2). This method, however, requires a grounding conductor which may or may not be available in the outlet box. The least acceptable method is installing another 2-wire receptacle that requires the use of an adapter for accepting 3-wire plugs (as shown in FIGURE 1). Even though the tab on the adapter may be properly connected to the cover-plate screw, the grounding path may not be adequate to protect against ground faults.

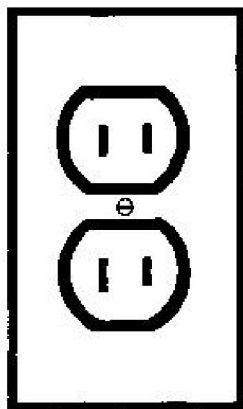


FIGURE 1 UNGROUNDED  
(POOR)

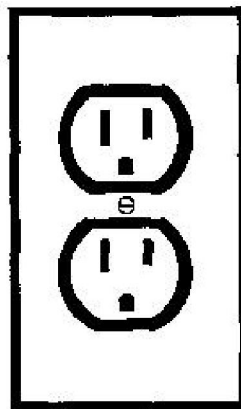


FIGURE 2 GROUNDED  
(BETTER)

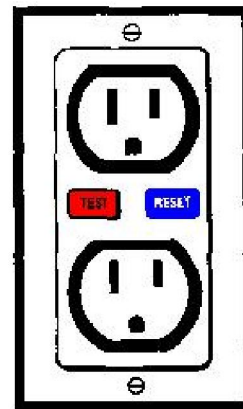


FIGURE 3 GFCI  
(BEST)

Outlets with poor internal contacts or loose wire terminals may become overheated and emit sparks. Even a receptacle with nothing plugged into it may run hot if it is passing current through to other outlets on the same circuit. To prevent damage to receptacles, appliances should be switched-off before unplugging from a receptacle.

- Have a qualified electrician replace damaged receptacles or those which feel hot, emit smoke or sparks, those with loose fitting plugs or those where plugged-in lamps flicker or fail to light.

- Do not unplug appliances by pulling on the cord at an angle. The brittle plastic face of the receptacle may crack and break away, leaving live parts of the receptacle exposed.

To protect young children, parents should consider some precautions:

- Insert plastic safety caps into unused outlets within reach of young children.
- Be sure that plugs are inserted completely into receptacles so that no part of the prongs are exposed.