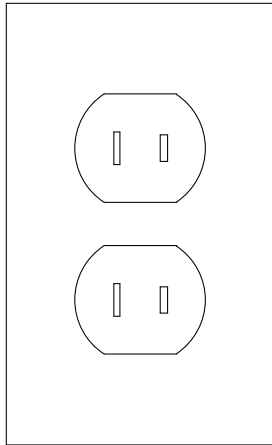


Replacing Receptacles in Your House

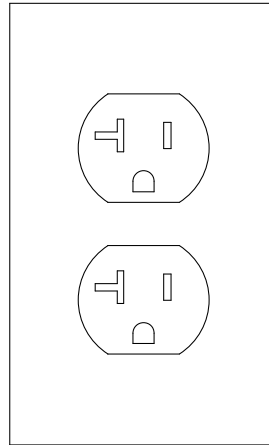
If electrical receptacles in your house are broken, no longer working correctly, have been painted over or for some other reason need to be replaced, please be aware of the following electrical code requirements.

1. Older houses used the “two prong” non-grounding type receptacles shown in **Figure 1** below.



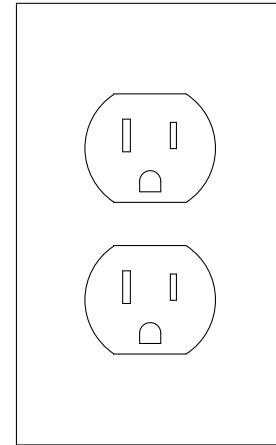
15 Amp - 125 Volt
Non-Grounding
Duplex Receptacle

Figure 1



20 Amp - 125 Volt
Duplex Receptacle

Figure 2



15 Amp - 125 Volt
Duplex Receptacle

You may replace the “two prong” type of receptacle with a new “two prong” receptacle. No electrical permit is required for this exact replacement. Because many electrical appliances have a cord with a grounding type plug, you may want to replace the old “two prong” receptacle with a grounding type receptacle. See **Figure 2** above for examples of grounding receptacles.

If you want to use a grounding type receptacle (fig. 2) to replace an existing non-grounding type receptacle (fig. 1), there are electrical code requirements which must be followed.

1. An electrical permit is required from the Office of Code Administration (703 385-7830).
2. A new equipment grounding conductor may be installed, and must be installed in one of the following methods:
 - a. At any accessible point on the grounding electrode system,
 - b. At any accessible point on the grounding electrode conductor,
 - c. At the equipment grounding terminal bar within the enclosure where the branch circuit for the receptacle or branch circuit originates (circuit breaker panel or fuse panel),
 - d. At the grounded service conductor within the service equipment enclosure.

Installing a new equipment grounding conductor can be time consuming and expensive, and may involve drilling holes, removing parts of the interior drywall finish and other alterations to the house. Installing a new equipment grounding conductor is rarely done, because there is another option which is recognized by the electrical code.

3. A new GFCI (Ground Fault Circuit Interrupter) receptacle may be installed in place of the existing non-grounding receptacle. See **Figure 3** for examples of a GFCI receptacle.

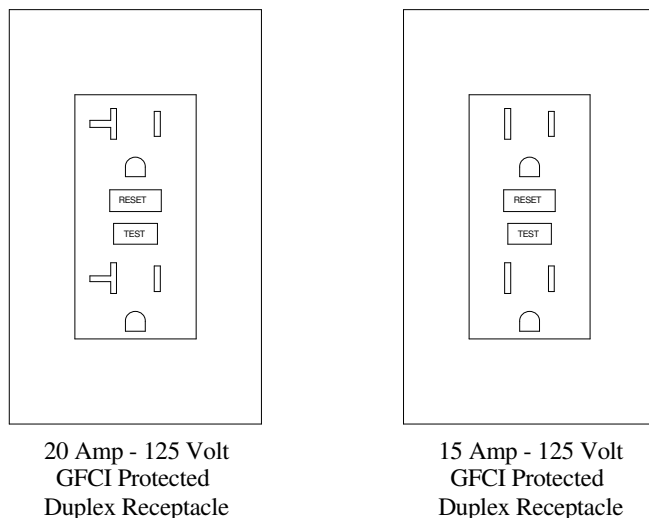
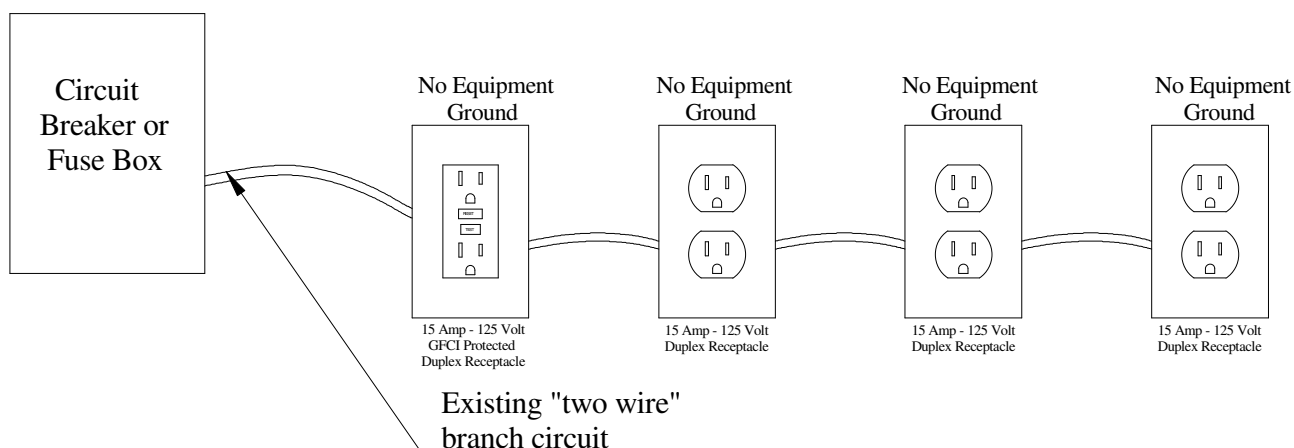


Figure 3

A GFCI receptacle may be installed on an older two wire (no grounding conductor) branch circuit, and will provide shock protection. This device does not rely on a grounding conductor; it senses an unbalanced current between the “hot” wire and the grounded neutral wire, and will trip if there is an imbalance of as little 5 milliamps. When installing this receptacle on a two wire circuit, it must be permanently marked, “**No Equipment Ground**”. Also, an equipment grounding conductor shall not be installed from the GFCI receptacle to any other outlet supplied from this receptacle.

Additional grounding type receptacles (**Figure 2**) may be installed on the same branch circuit as the GFCI receptacle, when they are installed “downstream” from the GFCI receptacle. Each of these grounding type receptacles must also be permanently marked, “**No Equipment Ground**”. See the following for a typical installation:



Also, instead of using a GFCI receptacle, a GFCI **circuit breaker** may be used to replace the existing circuit breaker in the panel box. This will provide the same protection as the GFCI receptacle. All protected receptacle outlets on the circuit must be marked “**No Equipment Ground**”.