

Answer: 9-47-26

Subject: **Ungrounded receptacle, replacing**

Topic Residential Outlets & Circuits
Category Receptacles & Switches
Keywords bond receptacle outlet
Date Created 3/8/2005
Date Last Updated 8/30/2006



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Question

I have purchased an older home that has older receptacles with no U ground slot. Can I replace them with modern grounding type receptacles?

Answer

It depends. Where grounding type receptacles (3 pin) are used to replace existing ungrounded type receptacles (2 pin), special caution must be exercised. The existing wiring supplying the receptacles may not incorporate a bonding conductor and the installation of a grounding type outlet may create a hazard if the outlet is not properly bonded to ground. Consult the service of a qualified electrical contractor.

The Code states "Where grounding type receptacles are used in existing installations to replace the ungrounded type, the grounding terminal shall be effectively bonded to ground." The Code permits bonding the receptacle by connection to a metal raceway or cable sheath that is bonded to ground; or by connection to the system ground by means of a separate bonding conductor; or by bonding to an adjacent grounded metal cold water pipe.

As an alternative to bonding the Code also states "grounding type receptacles without a bonding conductor shall be permitted to be installed provided each receptacle is protected by a ground fault circuit interrupter of the Class A type that is an integral part of this receptacle; or supplied from a receptacle containing a ground fault circuit interrupter of the Class A type; or supplied from a circuit protected by a ground fault circuit interrupter of the Class A type. Where this option is used, no bonding conductor is permitted between outlets unless that bond conductor is in turn connected to ground.

GFCI protection of the receptacles protects against possible shock hazards but does not provide a ground reference to the U-ground slot of the receptacles. Some appliances require a bond be connected to the U-ground slot in order to function properly. For example, surge protective devices for computer or entertainment equipment will not function without a ground reference.

Ontario Electrical Safety Code Rule 26-700.

Source - Electrical Safety Authority Technical FAQ