

mating connectors and receptacles shall provide for first-make, last-break of the equipment grounding conductor. First-make, last-break shall not be required if interlocked equipment, plugs, receptacles, and connectors preclude energization without grounding continuity.

(B) Switches. No automatic cutout or switch shall be placed in the equipment grounding conductor of a premises wiring system unless the opening of the cutout or switch disconnects all sources of energy.

250.126 Identification of Wiring Device Terminals. The terminal for the connection of the equipment grounding conductor shall be identified by one of the following:

- (1) A green, not readily removable terminal screw with a hexagonal head.
- (2) A green, hexagonal, not readily removable terminal nut.
- (3) A green pressure wire connector. If the terminal for the equipment grounding conductor is not visible, the conductor entrance hole shall be marked with the word *green* or *ground*, the letters *G* or *GR*, a grounding symbol, or otherwise identified by a distinctive green color. If the terminal for the equipment grounding conductor is readily removable, the area adjacent to the terminal shall be similarly marked.

Informational Note: See Informational Note Figure 250.126.



INFORMATIONAL NOTE FIGURE 250.126 One Example of a Symbol Used to Identify the Grounding Termination Point for an Equipment Grounding Conductor.

Part VII. Methods of Equipment Grounding Conductor Connections

250.130 Equipment Grounding Conductor Connections.

Equipment grounding conductor connections at the source of separately derived systems shall be made in accordance with 250.30(A)(1). Equipment grounding conductor connections at service equipment shall be made as indicated in 250.130(A) or (B). For replacement of non-grounding-type receptacles with grounding-type receptacles, or snap switches without an equipment grounding terminal with snap switches with an equipment grounding terminal, and for branch-circuit extensions only in existing installations that do not have an equipment grounding conductor in the branch circuit, connections shall be permitted as indicated in 250.130(C).

(A) For Grounded Systems. The connection shall be made by bonding the equipment grounding conductor to the grounded service conductor and the grounding electrode conductor.

The grounding and bonding arrangement required by 250.130(A) for a grounded system is illustrated in Exhibit 250.44.

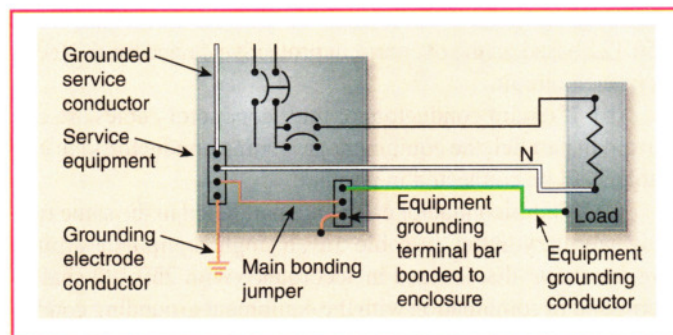


EXHIBIT 250.44 Grounding and bonding arrangement for grounded systems, per 250.130(A), illustrating connection of the EGC (bus) to the enclosures and to the grounded service conductor.

(B) For Ungrounded Systems. The connection shall be made by bonding the equipment grounding conductor to the grounding electrode conductor.

(C) Replacement of Nongrounding Receptacle or Snap Switch and Branch Circuit Extensions. The equipment grounding conductor that is connected to a grounding-type receptacle, a snap switch with an equipment grounding terminal, or a branch-circuit extension shall be permitted to be connected to any of the following:

- (1) Any accessible point on the grounding electrode system as described in 250.50
- (2) Any accessible point on the grounding electrode conductor
- (3) The equipment grounding terminal bar within the enclosure where the branch circuit for the receptacle or branch circuit originates
- (4) An equipment grounding conductor that is part of another branch circuit that originates from the enclosure where the branch circuit for the receptacle, snap switch, or branch circuit originates
- (5) For grounded systems, the grounded service conductor within the service equipment enclosure
- (6) For ungrounded systems, the grounding terminal bar within the service equipment enclosure

Informational Note No. 1: See 406.4(D) for the use of a ground-fault circuit-interrupting type of receptacle.

Informational Note No. 2: See 404.9(B) for requirements regarding grounding of snap switches.

Section 250.130(C) applies to both ungrounded and grounded systems, but its most common application is for receptacle replacement or branch-circuit extensions in single-phase, 120-volt, 15- and 20-ampere branch circuits. A non-grounding-type receptacle can be replaced with a grounding-type receptacle under the conditions of this section. This section does not permit a separate EGC to be connected to the metal water piping of a building beyond the first 5 feet because it is not considered a GEC [unless the conditions of 250.68(C)(1) Exception apply] or part of the electrode system.