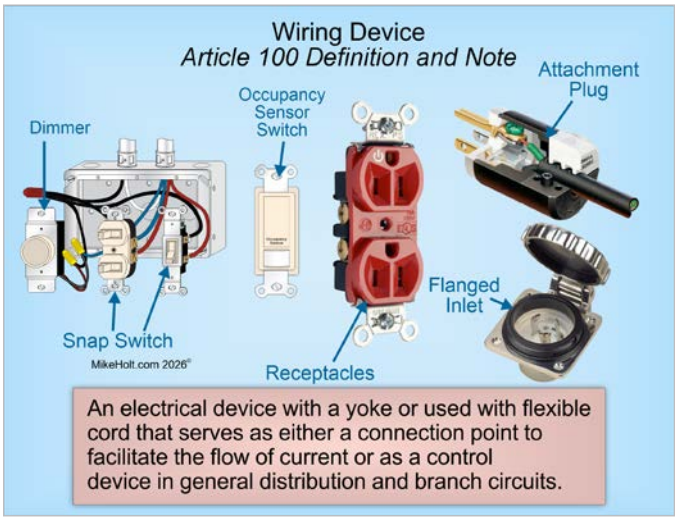
ARTICLE
406 Wiring Devices

Introduction to Article 406—Wiring Devices

This article contains the requirements for the rating, type, and installation of ***wiring devices***. Examples of wiring devices include attachment plugs, ***receptacles***, ***general-use snap switches***, pendant switches, surface switches, dimmers, electronic control switches, and lighting control switches.

Wiring Device. An electrical device with a yoke or used with flexible cord or cable that serves as either a connection point to facilitate the flow of current, or as a control device in general distribution and branch circuits. ▸Figure 406–1

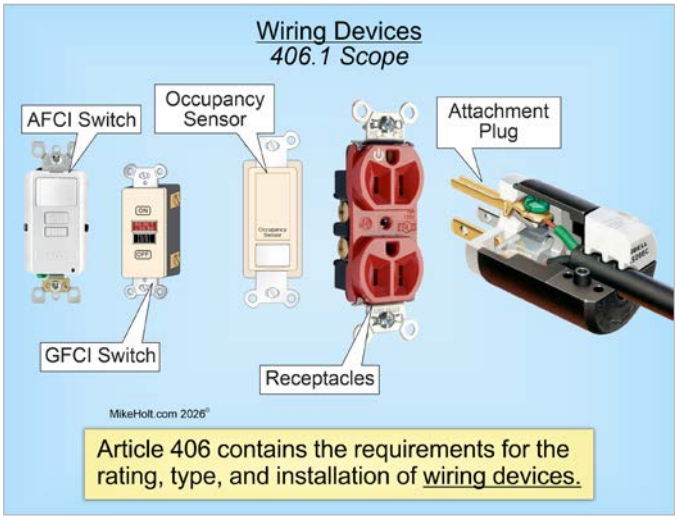


▸Figure 406–1

Part I. General

406.1 Scope

This article contains the requirements for the rating, type, and installation of wiring devices. ▸Figure 406–2

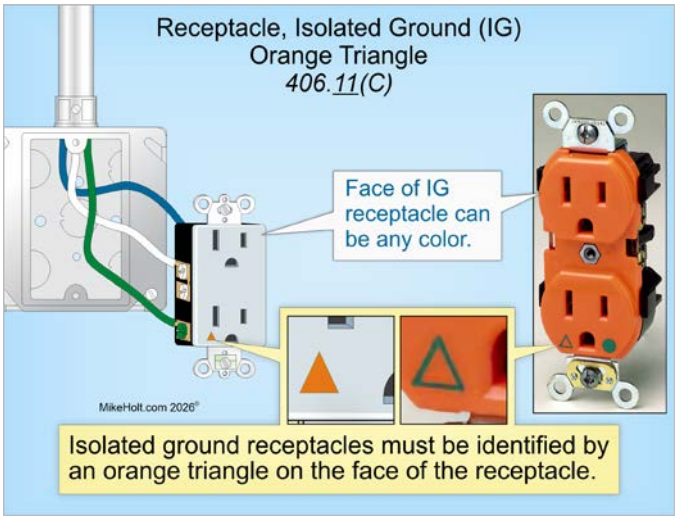


▸Figure 406–2

Part II. Receptacles, Cord Connectors, and Attachment Plugs (Caps)

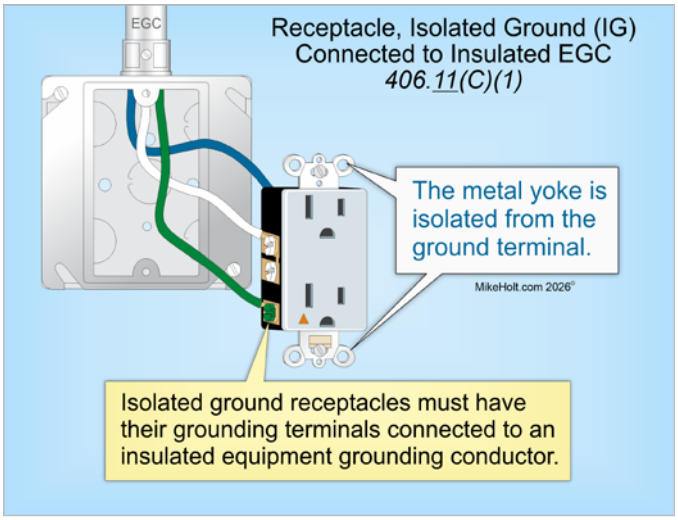
406.11 Receptacle Rating and Type

(C) Isolated Ground Receptacles. Isolated ground receptacles must be identified by an orange triangle on the face of the receptacle. ▸Figure 406–3



▸Figure 406–3

(1) Isolated Equipment Grounding Conductor. Isolated ground receptacles must have their grounding terminals connected to an insulated equipment grounding conductor in accordance with 250.146(D). ▸Figure 406–4

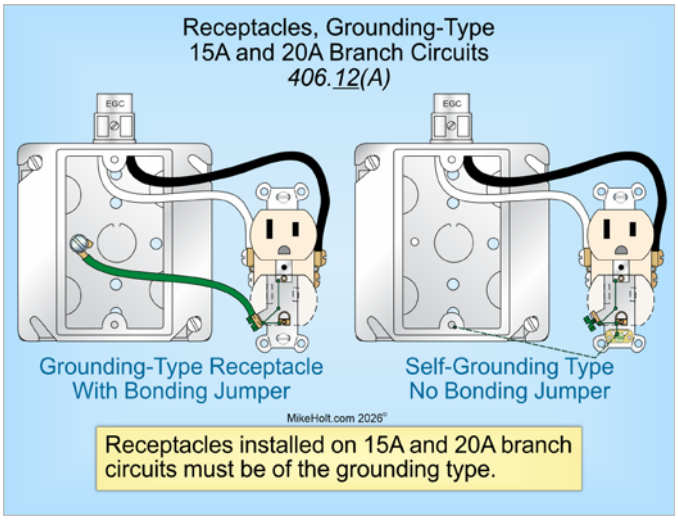


▸Figure 406–4

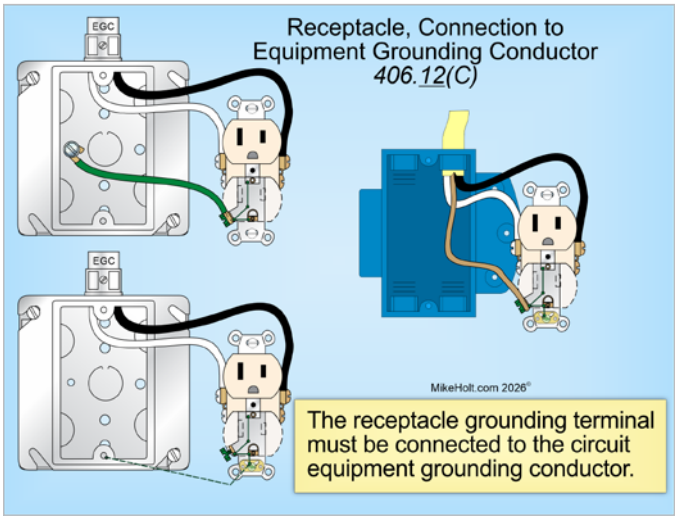
406.12 General Installation Requirements

(A) Grounding Type. Receptacles installed on 15A or 20A branch circuits must be of the grounding type, except as permitted for 2-wire receptacle replacements in 406.4(D)(2). ▸Figure 406–5

(C) Methods of Connection to Equipment Grounding Conductor. The receptacle grounding terminal must be connected to the circuit equipment grounding conductor in accordance with 250.146. ▸Figure 406–6



▸Figure 406–5



▸Figure 406–6

The ***cord connectors*** grounding terminal must be connected to the circuit equipment grounding conductor. ▸Figure 406–7

Cord Connector. A contact device terminated to a flexible cord that accepts an attachment plug or other insertion.

(D) Receptacle Replacements. Receptacles that are replaced must comply with the following:

(1) Equipment Grounding Conductor in Box. If an equipment grounding conductor exists in an outlet box, replacement receptacles must be of the grounding type and the receptacle's grounding terminal must be connected to the circuit equipment grounding conductor in accordance with 406.11.

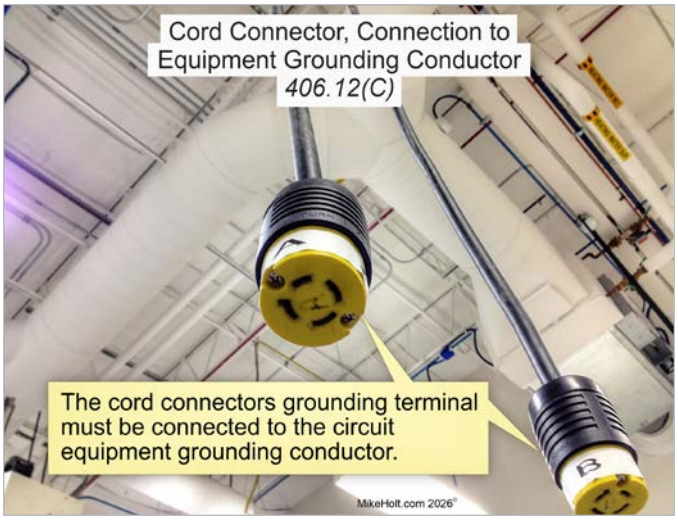


Figure 406–7

(2) No Equipment Grounding Conductor in Box. If an equipment grounding conductor does not exist in the outlet box, replacement receptacles can be any of the following:

(a) Nongrounding-type Receptacle. Non-grounding-type receptacles can be replaced with a non-grounding-type receptacle. Figure 406–8

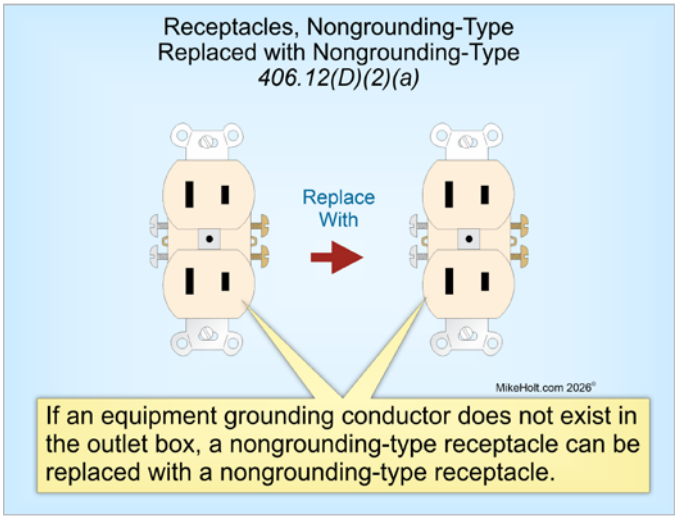


Figure 406–8

(b) GFCI-Type Receptacle. Non-grounding-type receptacles can be replaced with a GFCI-type receptacle where the GFCI-type receptacle or cover plate is marked "No Equipment Ground." Figure 406–9

(c) GFCI Protected Grounding-Type Receptacle . Non-grounding-type receptacles can be replaced with a *GFCI* protected grounding-type receptacle where the receptacle or cover plate is marked "GFCI Protected" and "No Equipment Ground." Figure 406–10

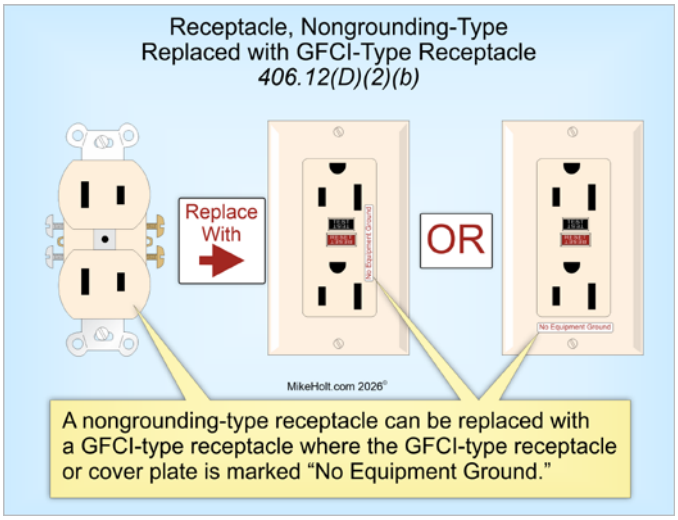


Figure 406–9

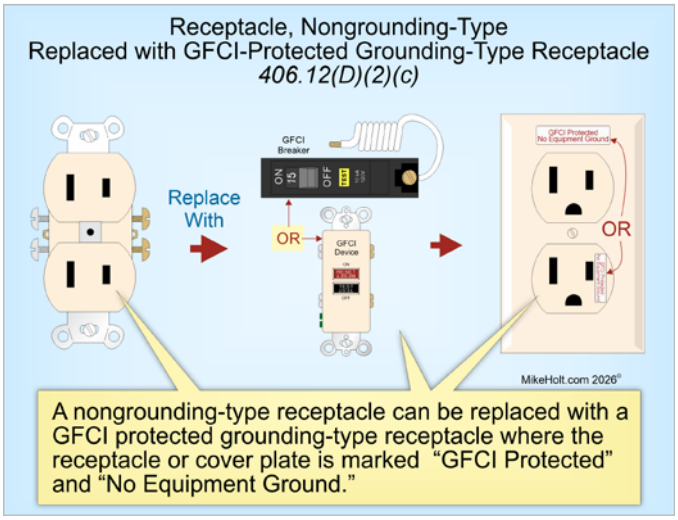


Figure 406–10

Author's Comment:

- GFCI protection functions properly on a 2-wire circuit without an equipment grounding conductor because the circuit's equipment grounding conductor serves no role in the operation of a GFCI device.

406.16 Receptacle Faceplates or Cover Plates

Receptacle faceplates or cover plates must completely cover the outlet openings and press against the mounting surface. Figure 406–11

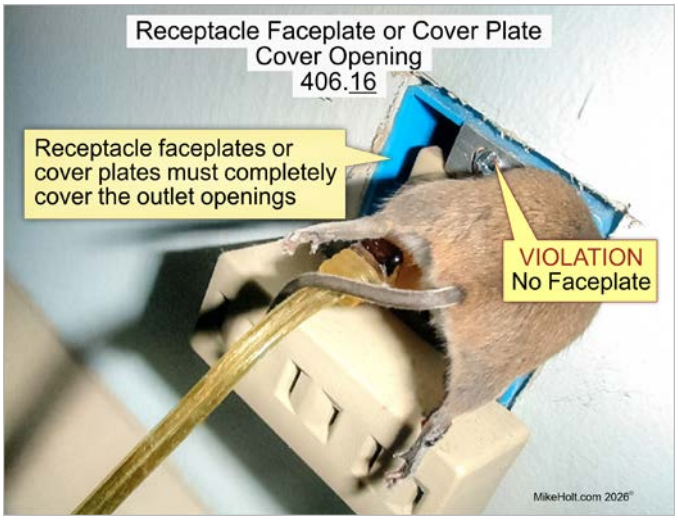


Figure 406–11

Part III. General-Use Snap Switches, Dimmers, and Electronic Control Switches

406.40 Switches, Dimmers, and Control Switches

(A) Faceplates. Faceplates for switches, dimmers, and control switches must completely cover the outlet box opening. Where flush mounted, the faceplate must seat against the wall surface. Figure 406–12

Figure 406–12

(B) Equipment Grounding Conductor. Switches, dimmers, and control switches and metal cover plates must be connected to the circuit equipment grounding conductor as follows:

(1) Metal Boxes or Metal Covers. Switches mounted to metal boxes or metal covers are considered connected to the circuit equipment grounding conductor by the use of the metal mounting screws. Figure 406–13

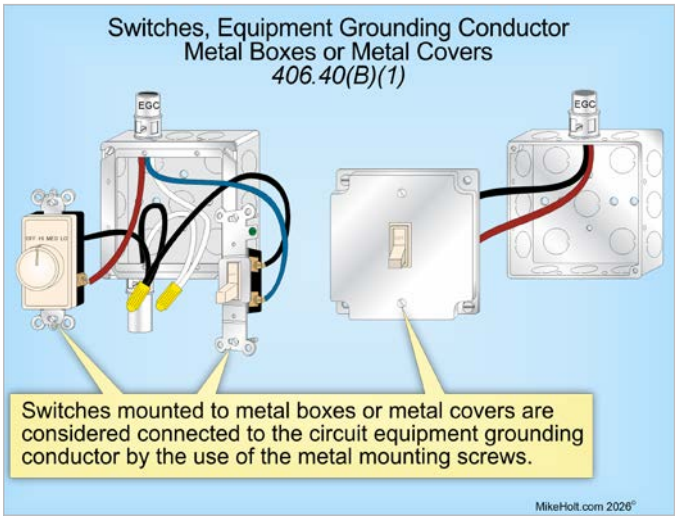


Figure 406–13

Metal Faceplates or Cover Plates. Metal faceplates or cover plates are considered connected to the circuit equipment grounding conductor by the use of metal screws that secure the metal faceplate or cover plate to the switch. Figure 406–14

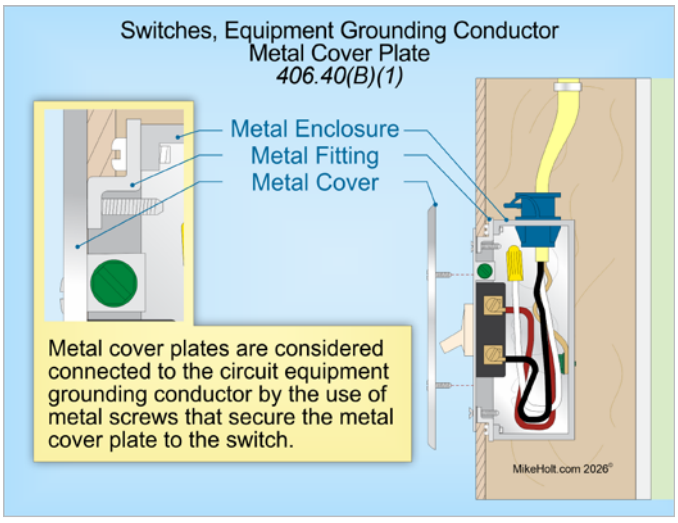


Figure 406–14

(2) Nonmetallic Boxes. Switches in nonmetallic boxes must have the grounding terminal of the switch connected to the circuit equipment grounding conductor. Figure 406–15

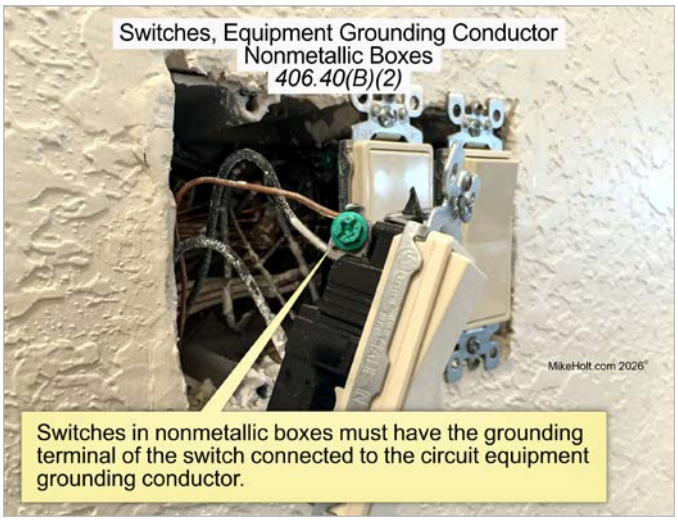


Figure 406–15

Author's Comment:

- A switch with a metal faceplate installed in a nonmetallic box poses a shock hazard if it becomes energized. An effective ground-fault current path is required by connecting the metal faceplate with metal screws to a switch that is connected to the circuit equipment grounding conductor [250.109].

Ex 1: At an existing installation, where no equipment grounding conductor is present at the switch location, a switch without a connection to the equipment grounding conductor is permitted. A switch under this exception must have a cover plate that is nonmetallic with nonmetallic screws, or the replacement switch must be GFCI protected.