

5 - ELECTRICAL: Rough Wiring

FIRST, GO THROUGH A STRUCTURE AND MARK THE LOCATIONS of all devices and fixtures on the framing members. Then install all electrical boxes so their faces are flush with the finish surface of the wall or ceiling.

Most houses are wired in type NM cable (Romex). All wiring should be neat and align with vertical and horizontal building lines (**Figure 5-26** and **Figure 5-27**, next page). One exception is in inaccessible attics where diagonal wiring paths may be acceptable (**Figure 5-28**, next page).

DRILLING AND NOTCHING

With the layout and boxes in place, drill out the studs (or punch them out, if metal) before beginning to pull in wire. If any nonmetallic cable, such as Romex, is installed in metal studs, penetrations in the framing must be protected by approved bushings.

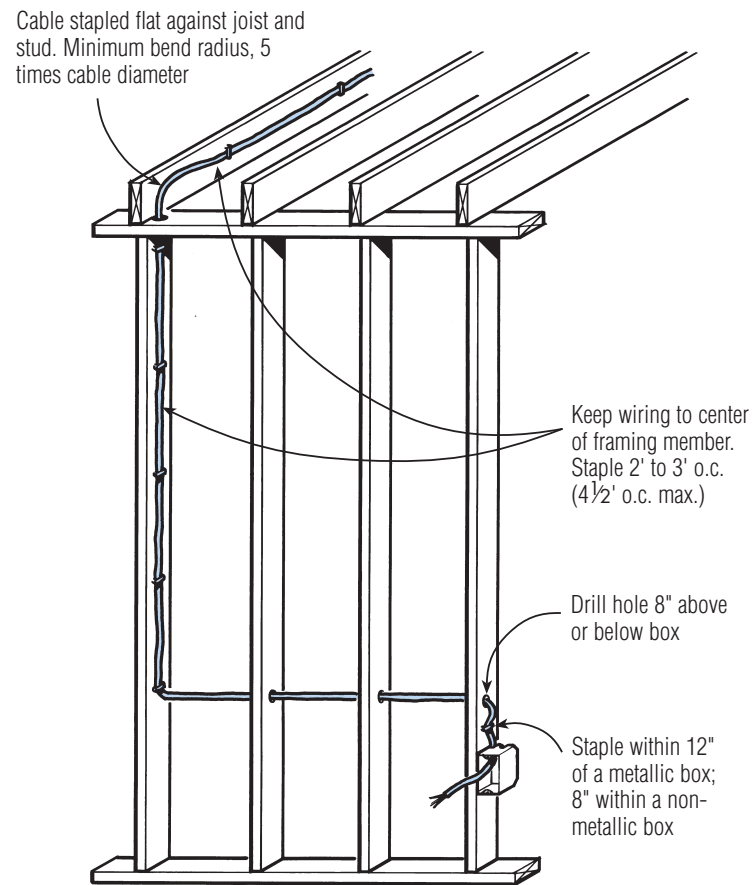
Rules for drilling and notching studs are covered in **Figures 5-29** and **5-30**, page 35.

Structural rules for drilling and notching floor joists are illustrated in *JLC Field Guide to Residential Construction, Vol. 1*, Figures 2-30 and 2-37, pages 117 and 123.

RUNNING CABLE

Romex must be stapled at least every 4½ ft. and within 12 in. of a box with clamps or a connector, or within 8 in. of a nonmetallic box that requires no connector or clamps (**Figure 5-26**). Cables that are run through holes in wood or metal framing members are considered supported. Cables passing through holes or stapled along studs and joists must not be closer than 1¼ in. to the face of the framing unless they are protected from nails and screws by

Figure 5-26. Running Cable through Stud and Joist Bays



When running cable along the length of studs or joists, keep the cable to the center of each, leaving a 1¼-in. minimum clearance on each side of the framing member. When running cable through studs, drill all holes at the same height so that the cable is run level to the floor. Drill holes 6 to 8 in. above or below all switch and receptacle boxes.

Running Cable