

EPISODE #2015 LIGHT IT UP

Warning!

Electricity can be dangerous! Use extreme caution!

Electricity can be an intimidating concept for many because of the potential danger. You can virtually eliminate that danger with the proper knowledge and correct safety practices. However, regardless of how much you know about household electricity, always remember **Safety Comes First**, because electricity can be deadly.

Before beginning any electrical work, you need to get an **electrical permit** from your local electrical authority (see Step 1 in Basic Steps)

Before doing any work on pre-existing electrical wiring you must **shut off the power** at the breaker panel. If you are installing new electrical wiring, you do not hook up your wiring to the breaker panel until all the lights, switches, and outlets have been properly connected. Get a certified electrician do the final wiring for you.

Make sure you read your **electrical code**!

Tip - Always check all wires with a voltage probe before starting work.

Basic Steps to Consider when running new wiring:

A. Map out your plugs and switches

This is the most important step! Bring a drawing of your map to your local electrical authority for approval and a permit. (fig. A)

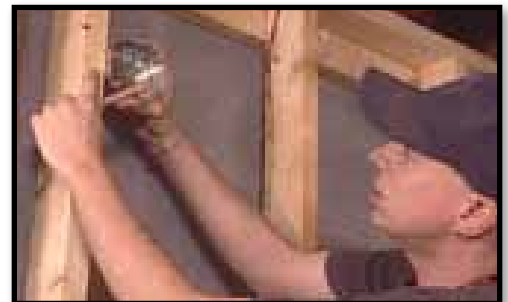
*Keep in mind there will be 2 inspections by the electrical authority, the first when you've roughed in the work (no connections yet made) and the second inspection is when all connections have been completed.

B. Rough-in and Box Placement

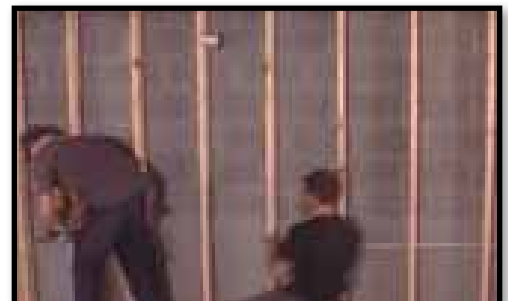
- Lay out your electrical boxes around the room. Code usually requires 12' or less between outlets on the same wall. Check code for height at which to install switch boxes and keep them at the same height around the room. (fig. B)
- Assure that your boxes will be flush with final wall covering.



A. Check for appropriate height of utility boxes.



B. Plan placement of all utility boxes before wiring.



C. Drill through centre of studs at correct height



D. Feel the power of a Dewalt right angle drill.

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C. Preparing the Studs:

- Drilling with a right-angle drill (see Tool of the Day) and a wood bit is the most common way to run the wire through interior, uninsulated walls. Some of the larger drills have right-angle attachments, or you can rent a right-angle drill from a local tool rental shop.
- Drill your holes dead center in the studs and about 6" higher than your outlet boxes. Again, check your local code as this may differ in your region.

D. Wire installation

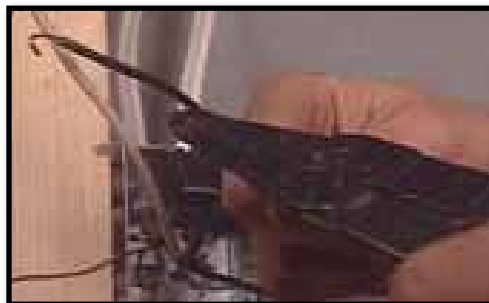
- The most commonly used interior wiring in North America is a 12 or 14-gauge NM (nonmetallic) sheathed cable,
- Beginning at the breaker box, expose enough wiring at the box for the electrician to work with.
- Knock out the knock out and feed the cable through. Leave roughly a hand and a thumb exposed (about 1 foot of wire). (fig. E)
- Clamp the wires in place using the strain relief inside the outlet box.
- Strip the wire using a wire stripper (wire gauge is marked on the tool to make it easier). Expose at least 6" of lead wire to stick out of the face of the box. These exposed wires are hooked to the outlet for final connection. Make a little hook at the end of each exposed wire and fold back into the box to protect the wires from future work. (fig. F,G)
- It is a good idea to label both ends of each wire with colored tape so you can always determine where it leads.
- Where there is less than 1 1/4" between the face of the stud and the wiring, nail guards should be placed on the studs to protect the wire from any nails or screws that will attach the wall covering. (fig. H)
- Now it is time to call in the inspector to check your work, before you complete the connections. (fig. I,J)



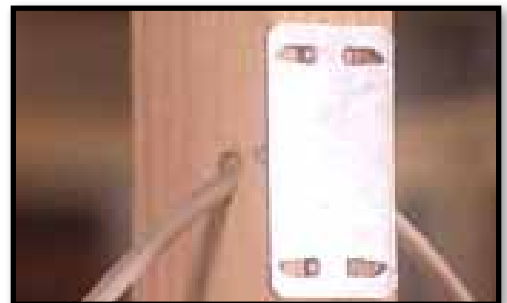
E. Knockout and feed the cable through.



F. Strip the wire using a wire stripper.



G. Make a hook at the end of each exposed wire.



H. Protect the wires with a nail guard.



I. Get an inspection from local electric authority



J. George and Leigh pass their inspection.