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What Does An Electrician Do, Exactly?

This is a question that seems like it has an obvious answer: electricians work with electricity. They set things up so that buildings and homes receive the power they need to utilize electrical devices. But that doesn't really tell you about the *actual tasks* that an electrician does on any given workday.

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So, what does an electrician do, exactly?

To answer this question and give you more insight on how electricians actually spend their days, we'll start with a broad description of the work, and then discuss the different types of electricians, the job responsibilities of each, and the tools they use during an average job.

Electrician Job Tasks — A Broad Overview

We'll keep this brief, because it's probably a review: electricians are paid to install the wiring that brings electrical power into any [type of building or structure](#), and then they are paid to maintain that wiring as time goes on. They work in accordance with [safety rules and regulations](#) to ensure that buildings have enough power to operate, and do so in a way that is safe to residents.

Electrician Job Types

As we detailed on our homepage, there are basically four different kinds of electricians (there are a lot of specialties, but we'll go into that later). The four different types are:

1. Residential Wiremen. They install and maintain the electrical wires that go into peoples' homes.

2. Inside Wiremen. They place and maintain the electrical wires that go into larger structures, such as office buildings, factories, arenas, airports, municipal buildings, schools, colleges, etc.

3. Telecommunications Electricians. They lay the cable that is needed for all forms of communication, including phone, computer, and local area network wiring.

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4. Outside Linemen. They set up the cables that go from power plants to buildings and homes. You've probably seen these folks up on telephone poles and laying thick cables on sides of the road. A very difficult (and very high-paying!) job.

Electrician Job Responsibilities

Let's take a look at some specific tasks that electricians handle, along with the type of electrician that is responsible for completing that task.

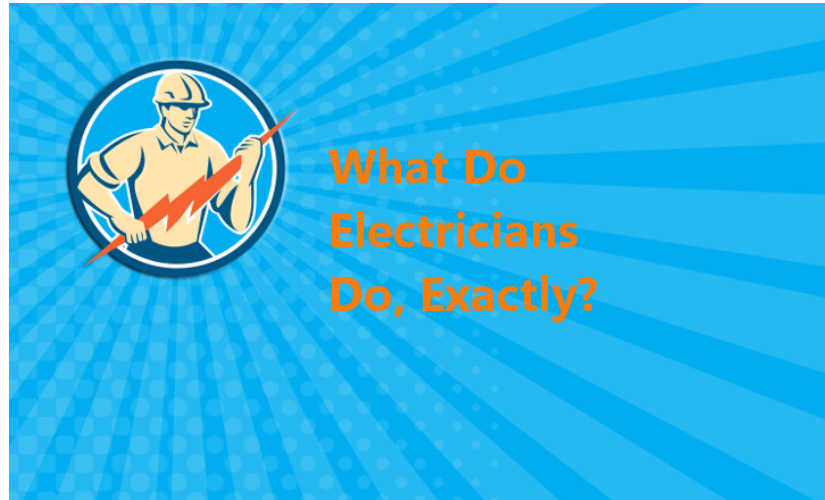
- Reading blueprints to learn where circuits, outlets, [panel boards](#), and other electrical components are to be found or placed (all);
- Planning the layout and installation of wiring through an entire building or series of buildings (all);
- Installing electrical machines in factories (inside wiremen);
- Putting fiber optic cable for telecommunications equipment into commercial structures (telecommunications electricians);
- Installing systems that will enable telephones, intercoms, computers, security alarms, and fire alarms to work properly (telecommunications electricians);
- Adding, maintaining, and replacing circuit breakers, fuses and wires (all);
- Tracing the flow of energy to circuit breakers and transformers (all);
- Reviewing the work that other electricians have done in a building, and making sure it meets the safety standards set out in the National Electrical Code (all);
- Finding and replacing faulty wiring or aged wiring that could pose a safety hazard (all);
- Managing work crews' time and labor (all); and
- Teaching and appraising electrician apprentices (all).

Installation vs. Maintenance

If you'll notice, the tasks in the list above are split between "installation" and "maintenance." New construction and installation are obviously important, and are a very satisfying part of an electrician's job. However, maintenance is also vitally important. Have you ever been in an office building when the electricity goes out? The place basically shuts down. Electricians must do routine maintenance checks and periodic testing to make sure systems are running smoothly, and no interruption of operation will occur.

For residential wiremen, maintenance may mean replacing a run-down fuse box with a new circuit breaker, or adding new electrical equipment, such as light fixtures or ceiling fans. For inside wiremen working in factories, the maintenance work can be more difficult, and can include working on generators, transformers, assembly line machinery, or motors. Factory work can be much more dangerous.

When something goes wrong, it can be very difficult to figure out what is broken, and then, it can difficult to figure out how to fix it! A good maintenance electrician who can keep a facility running smoothly (and quickly fix problems when they arise) will have a long and prosperous career.



Tools Electricians Use

Electricians use a tool set that includes many items to cut and shape wire. That includes knives, hacksaws, pliers, wire-strippers, and various hand tools. They also [use conduit benders](#) to shape pipes or tubing into [specific angles](#).

Measuring Devices Electricians Use

You probably had some idea of everything we've written so far. Most people have a kind of intuitive understanding of most of the electrician job responsibilities. That said, many people don't know about the measuring devices that electricians use OJT ("on the job"). Here's a breakdown of the different tools they may use, and what the tool is used for:

- **Ammeters:** Electric currents are measured in amperes, and [an ammeter](#) measures the electric current in a circuit.
- **Ohmmeters:** The opposition to an electric current is called electrical resistance, and an ohmmeter (sometimes written "ohm meter") measures that electrical resistance.
- **Volmeters:** A tool that measures that amount of voltage that is passing between one point and another point.
- **Oscilloscopes:** A device that graphs how voltage rises and falls over a specific period of time.

If you aren't familiar with those tools, but you're interested in a career as an electrician, don't let that lack of knowledge bum you out! There will be plenty of time during your training to learn what each tool is, how it works, and how to use it.

A Diversity Of Tasks

As you can see, electricians handle many different jobs tasks, and have a wide range of responsibilities. For most electricians, that varied nature of the work is the best part of the job—it's always new, and always exciting!