Electrical Trades

Electrician's Tools Of The Trade

Learning Objectives

- Identify the basic hand tools used in the electrical trades.
- Select the essential tools for each specific job.
- Maintain and use these tools safely.
- List factors to consider when purchasing hand tools.

The Electrician's Tool Pouch

- The Electrician's tool pouch is essential in that it helps kept electrical tools organized. The tool pouch allows the right tools at hand which makes the job more efficient.
- The electrician must have proper tools for the job.
- Tools must be maintain and kept in good working condition.
- Certain tools are essential, and without them the electrician should not attempt to do any type of wiring.
- Listed are the basic hand tools that are essential to electrical wiring.



Electrical Specific Hand Cutting Tools

Needle-nose pliers

- Forming loops on small conductors
- Cutting and stripping small conductors



Diagonal pliers (dykes)

- Cutting small conductors
- Cutting conductors in limited spaces



Lineman's pliers (side cutters)

- Cutting large conductors
- Forming loops on large conductors
- Pulling and holding large conductors



Wire strippers

- Stripping insulation from conductors
- Cutting small conductors
- Crimping wire lugs



Electrical Specific Hand Tools

Tap tool

- Equipping drill holes with bolt threads
- Retapping damaged threads
- Determining bolt size



Flat-blade screwdriver

 Installing and removing slot-head screws



Center punch

 Making center tap in wood or metal for drilling



Phillips screwdriver

 Installing and removing phillips-head screws



Electrical Specific Hand Tools

Slip-joint pliers

- Holding couplings and conductors
- Tightening couplings and conductors



Keyhole saw

Cutting holes in plasterboard for circuit boxes



Magnetic torpedo level

Leveling conduit and equipment



Conduit reamer

 Reaming burrs from cut conduits and EMT



Electrical Specific Hand Tools

Hacksaw

- Cutting large conductors and cables
- Cutting conduit, metal, or bolts



Adjustable wrenches

Used for turning bolts, nuts, and small pipe fittings



Steel measuring tape

Measuring conduit and cable



Nut driver

- Installing and removing nuts and bolts
- Tightening and loosening nuts and long bolts



Electrician's Essential Tools

Electrician's hammer

- Diving and pulling nails
- Opening wooden crates and breaking plasterboard



Electrician's knife

- Opening paper cartons
- Stripping cables and large conductors



Circuit tester

- Checking circuits for power
- Checking fuses and breakers



Hex key set (Allen wrenches)

Installing and removing Allen screws



Tools Used for Specialty Work

Steel fish tape and reel

- Pulling conductors through conduit
- Pulling cables through insulated walls



Rotating speed screwdrivers

 Used for trim work, installing switch and receptacles



Conduit bender

Bending conduit for conductor installation



Sheet metal Cutters

Used for cutting and trimming sheet metal



Rules for care of hand tools

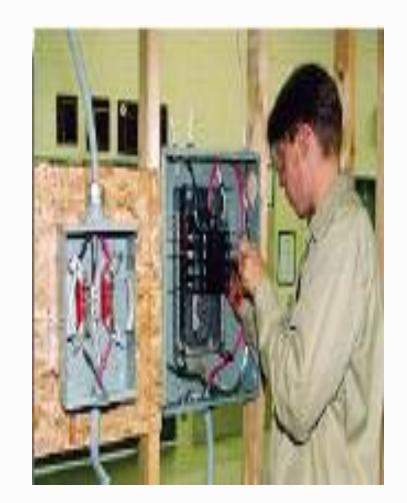
- There are many more hand and power tools that electricians will use in residential and commercial wiring.
- All tools should be used only for the purpose intended.
- It is the electrician's responsibility to keep his or her tools sharp, clean, and lubricated.
- A well maintained tool has a longer life and is safer than an improperly maintained tool.
- Repair tools when possible, but discard worn or damaged tools.



Factors For Purchasing Tools

Factors to consider when purchasing tools are size, design, and quality.

- Always purchase the correct <u>sized</u> tools for the work to be done.
- Tools should be designed specifically for electrical work. Ex: Insulated handles, hammers with straight claws.
- The purchase of quality tools last longer which saves replacement cost.



Remember

- Select the right tool for the job.
- Keep tools clean, lubricated, and in good working condition.
- Purchase good quality tools they are safer and will last longer.
- Repair tools when possible, but discard worn or damaged tools.