

# JOB ROLE – WIREMAN-CONTROL PANEL

Sector – Electronics  
(Qualification Pack Code: ELE/Q7302)



PSS Central Institute of Vocational Education  
Shyamla Hills, Bhopal – 462013 , Madhya Pradesh, India

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# UNIT 7: TOOLS AND EQUIPMENT

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# Unit Objectives

The student will be able to:

- Describe the need of tools and equipment,
- Demonstrate the use of basic hand tools,
- Demonstrate the use of equipment.

# Introduction

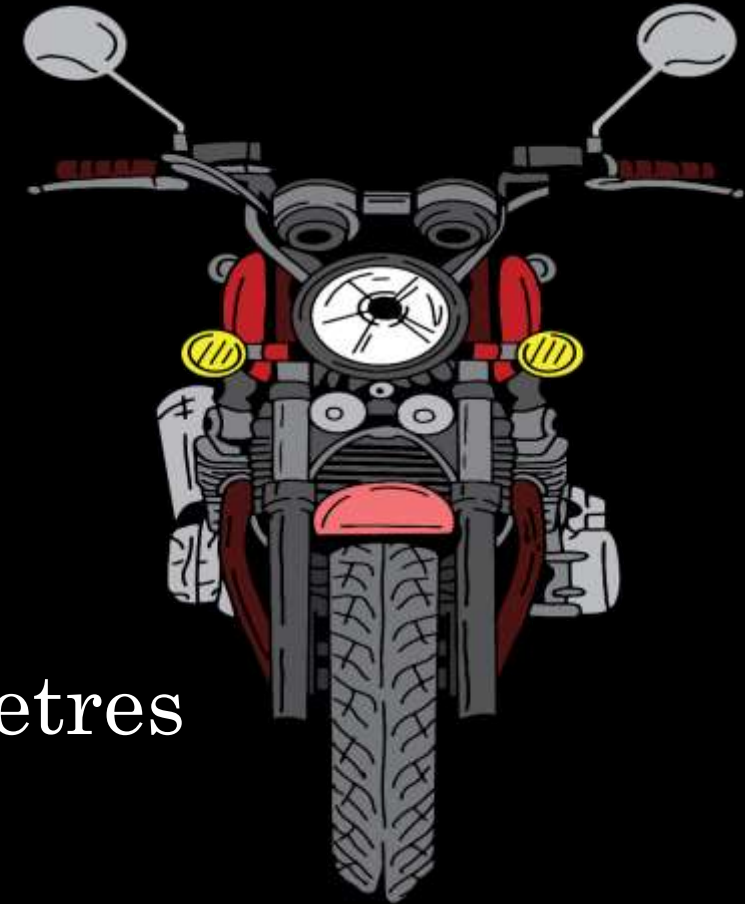
An ammeter measures current, a voltmeter measures potential difference (voltage) between two points and ohmmeter measures resistance. A multimeter combines these functions and possibly some additional ones as well into a single equipment. Various tools and equipment, such as screwdriver, phase tester, stripper and pliers are used to carry out electrical control panel installation.



Multimeter

# Need of Tools and Equipment

Have you observed the **meters** on the **vehicle**?



Those meters are:

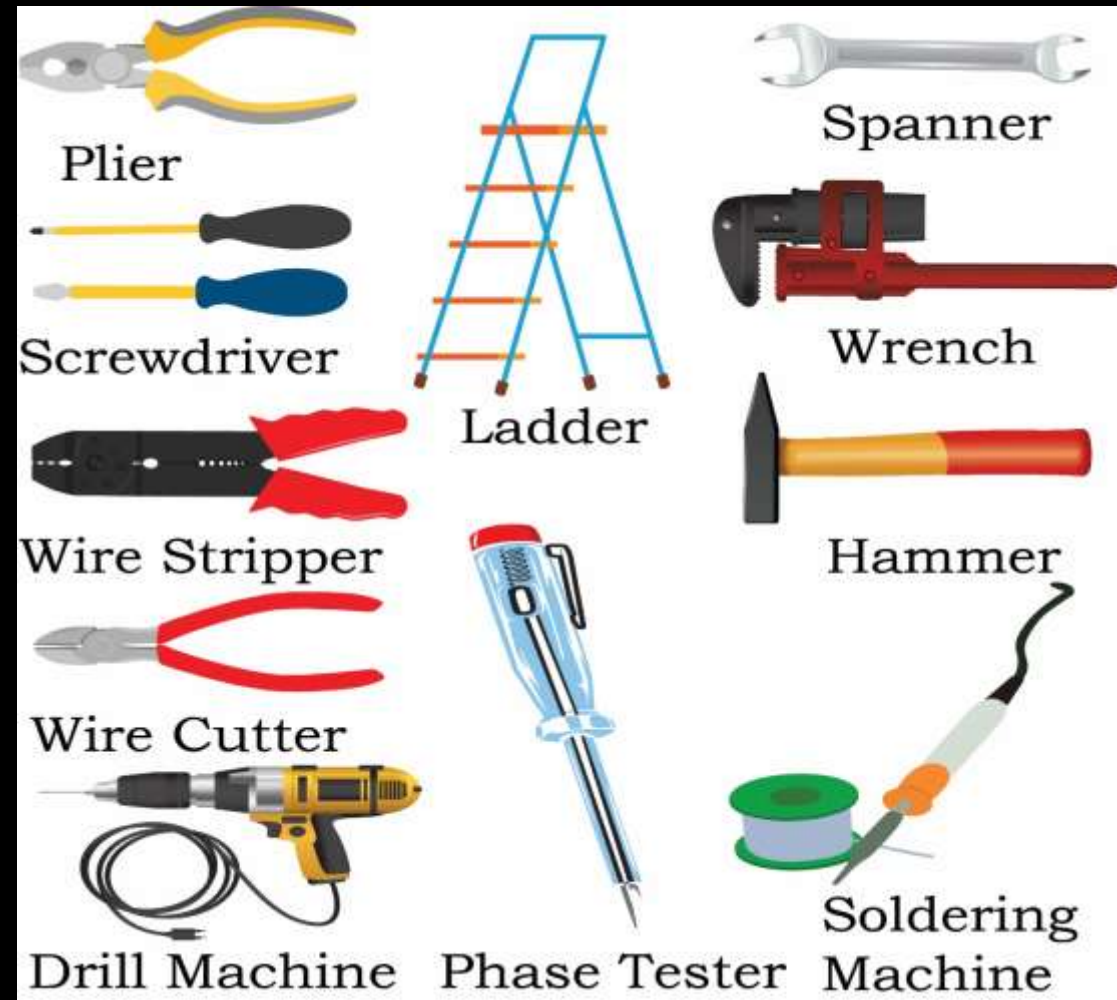
**Odometer**- Distance travelled in kilometres

**Fuel meter**- Fuel level indicator

**Speedometer**- Speed of the vehicle

# Tools and Equipment

- Likewise, in our day to day life, one deals with many tools and equipment.
- They are the **driver, tester, measuring equipment and many more.**
- They are **used to install, maintain, repair the circuit and system.**





Multimeter



Clampmeter

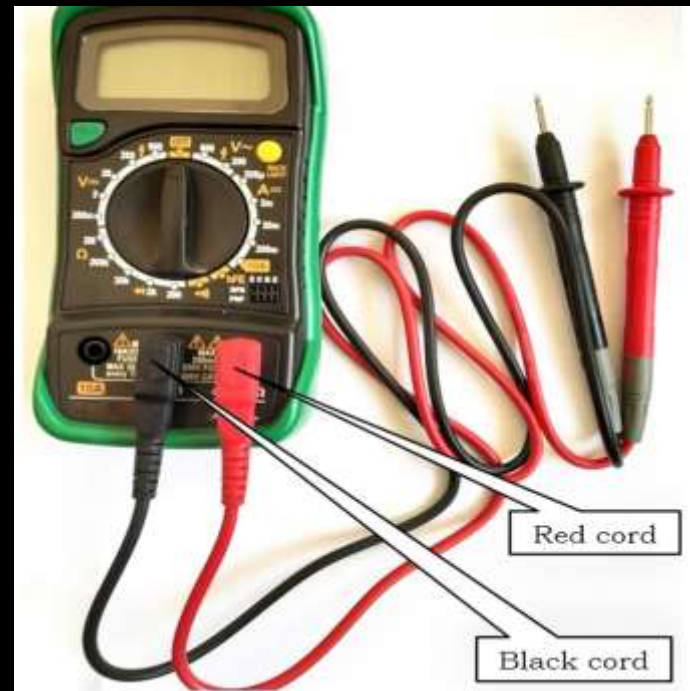


Functions of a Multimeter



# Multimeter

- It is a **test instrument**. It has a knob to switch in different functionalities.
- It can measure **AC or DC voltage, current, resistance** and also used for **diode testing**.

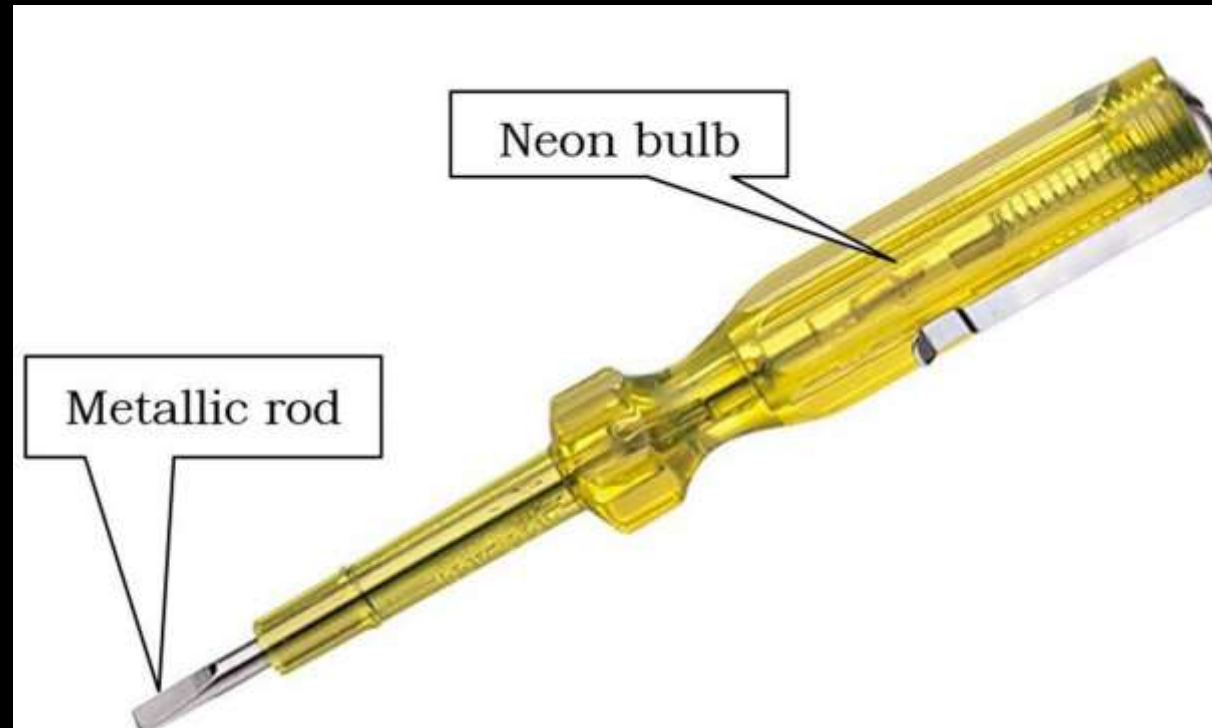


Terminals of Multimeter

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# Line Tester

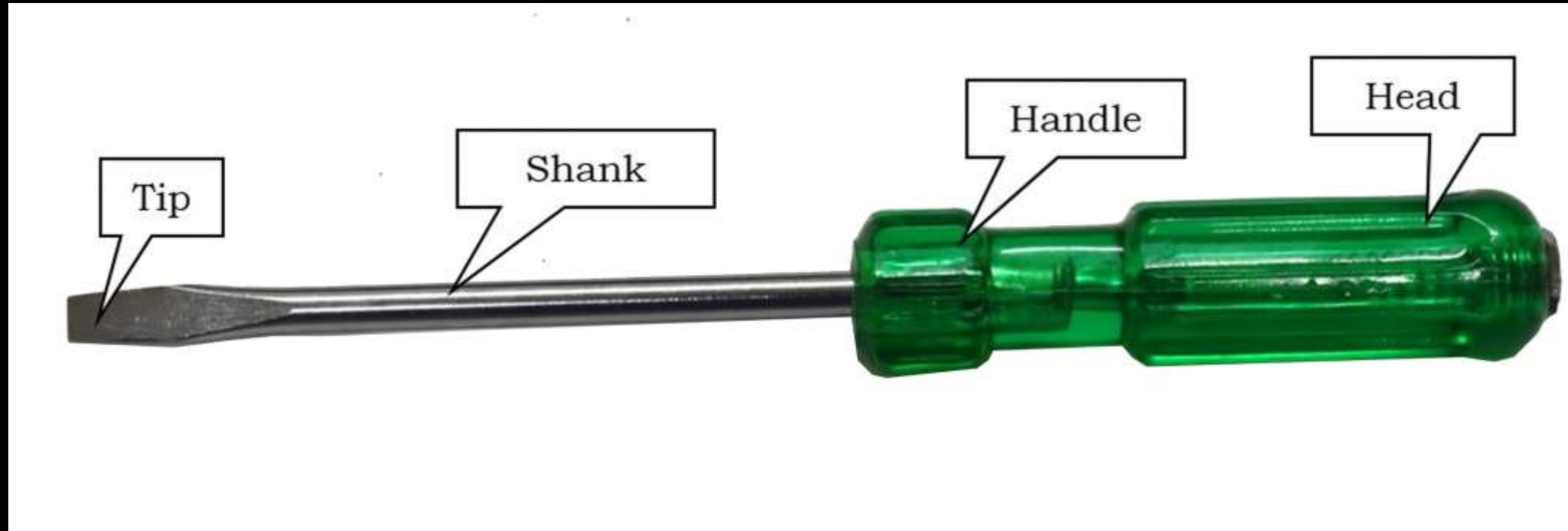
- It is also known as **phase tester**.
- Used to identify or test **phase or live wire**.



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# Screwdriver

- Used to **tighten or loosening** the screw.



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# Clampmeter

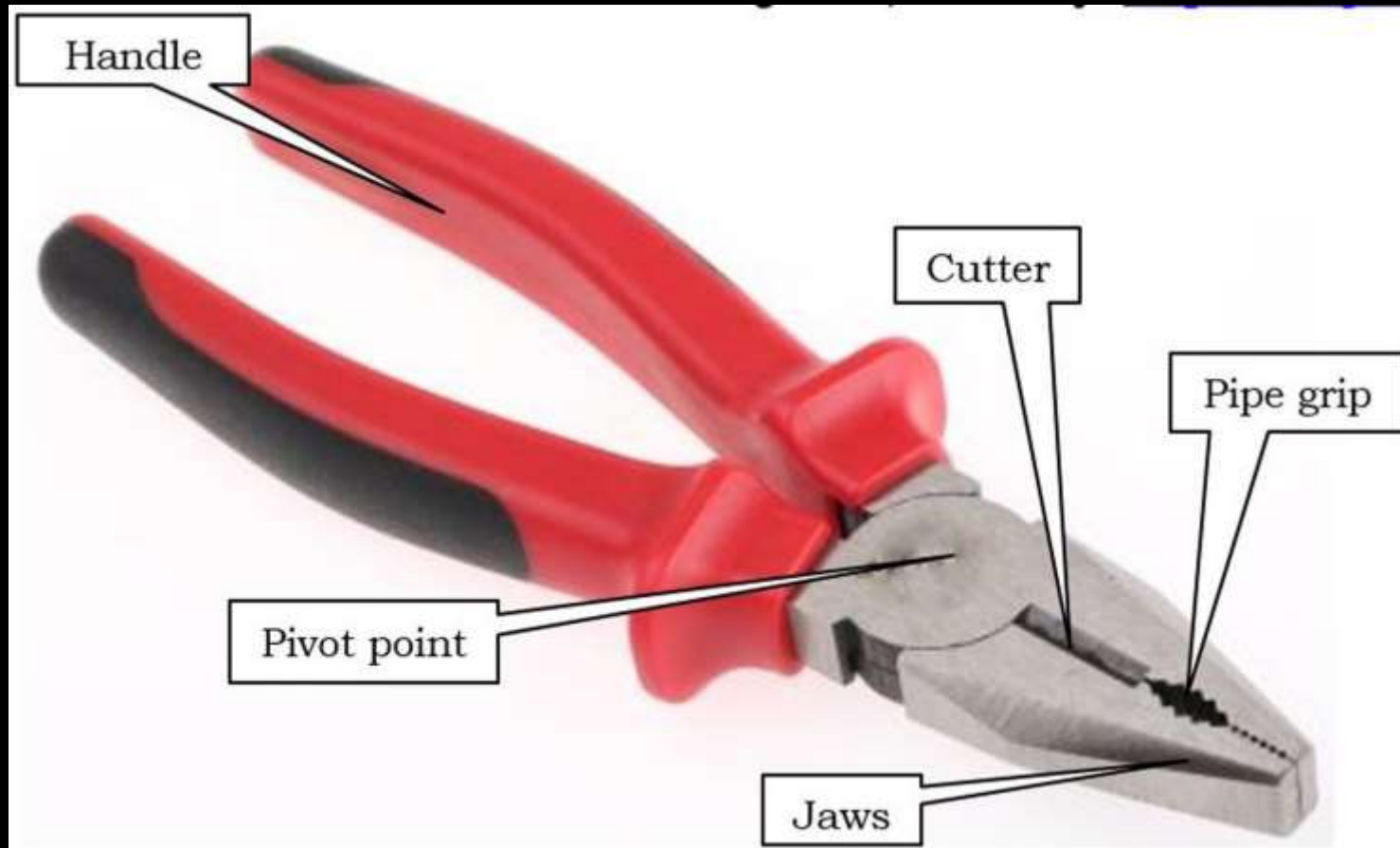
- Used to measure **current without breaking or cutting the wire.**



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# Plier and Wire Stripper

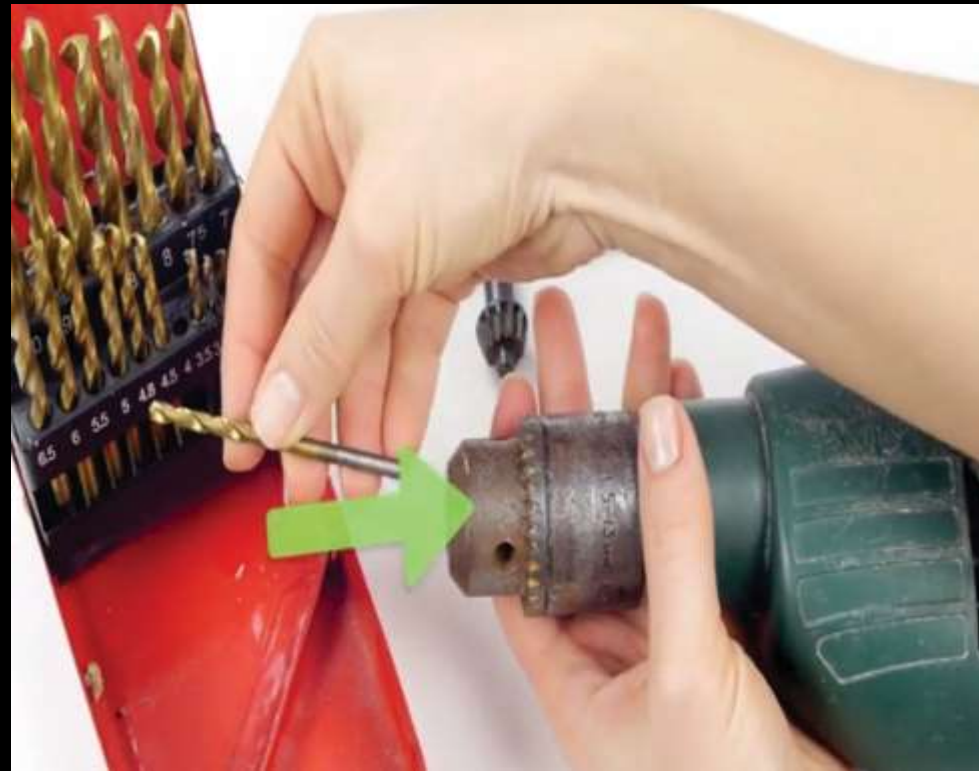
- Used to **cut** and **grip** the wire.



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# Drill Bits

- Used to remove the material to create the hole.



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# Soldering

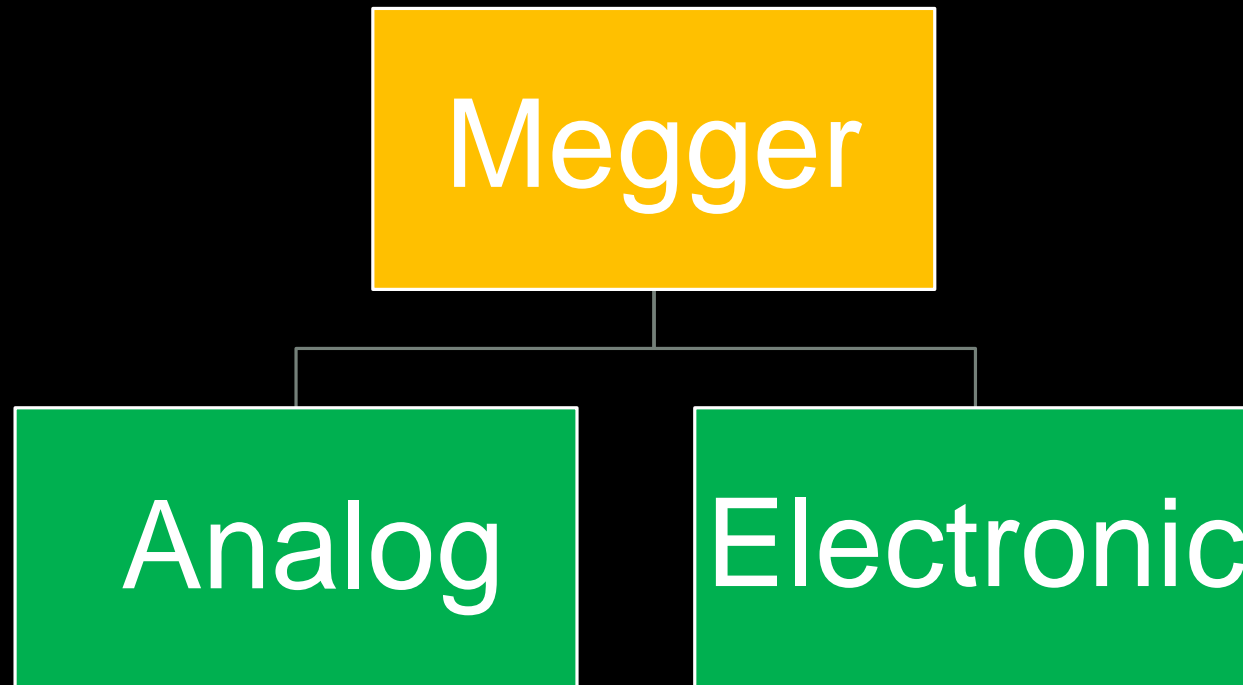
- Used to bind metal components.



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# Megger

- Used to measure insulation resistance of wires, cables and equipment.
- Types of megger meter are:



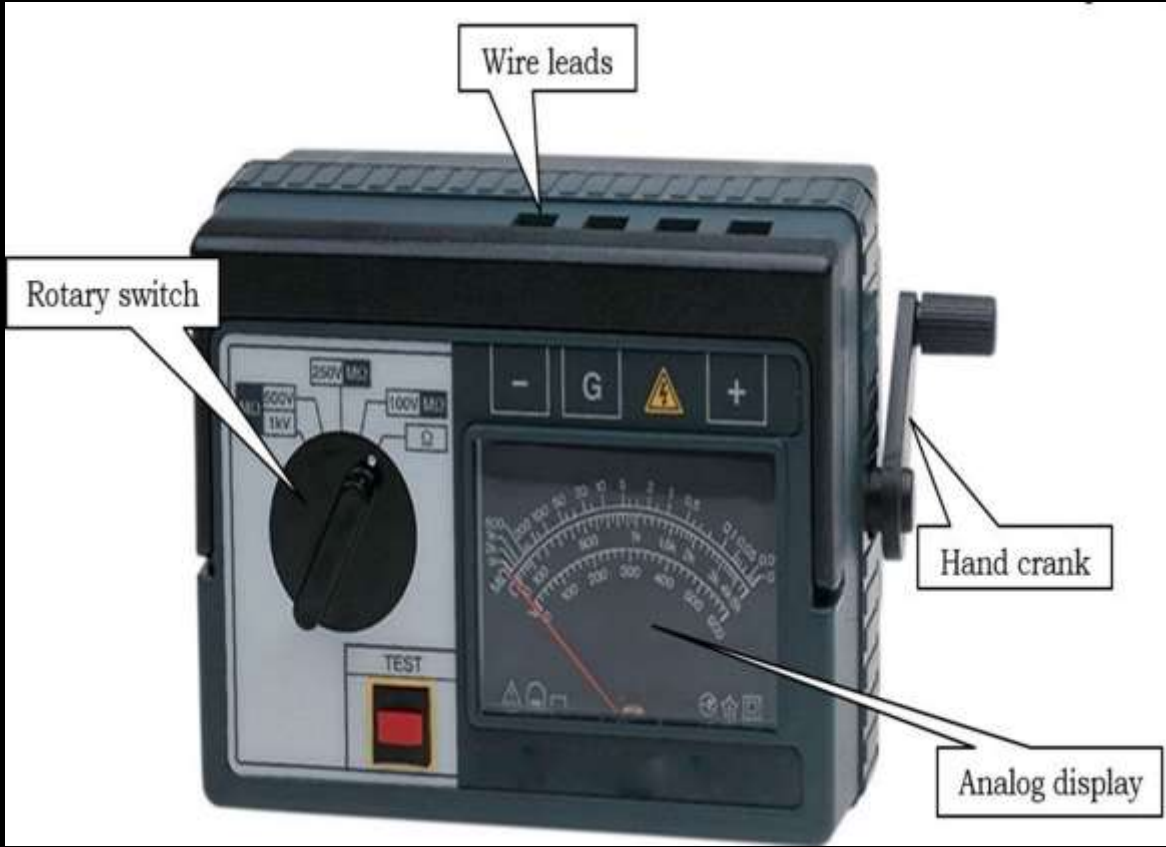
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# Digital Megger Meter



# Analog Megger Meter



# Wire Lugs

- Use to terminate the wire or cable.



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# Wire Stripper

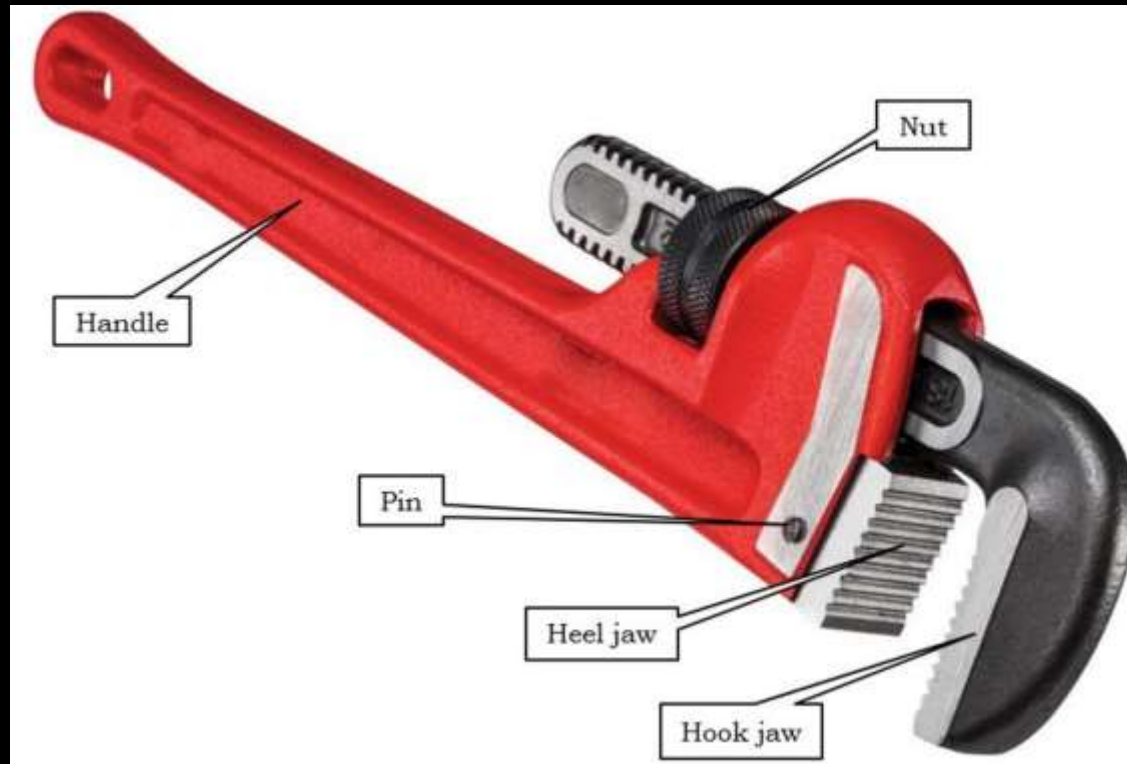
- Used to strip the insulation of wire.



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# Wrench

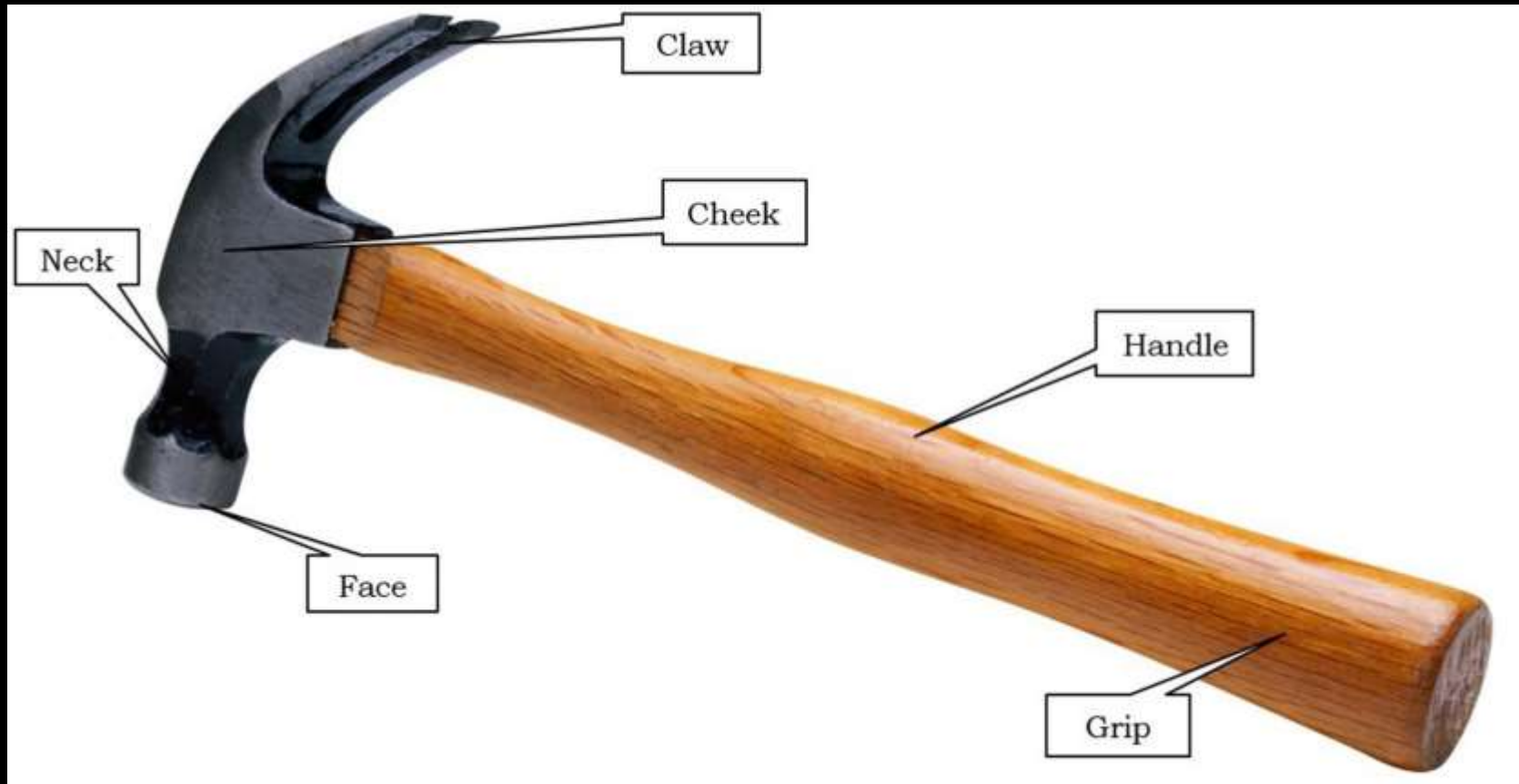
- Used to provide grip and mechanical advantage in applying torque to turn objects such as nuts, bolts, fasteners and many more.



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# Hammer

- Used to hit things, shaping of metal sheets.



Continue....

# Summary

- Tools and equipment help technician in installation, maintenance, repair.
- Each tool have specific use, which must be known to a technician.
- Technician must carefully operate the tools and equipment at the workplace.
- Each tool and equipment have number of parts, technician must be aware of each part.

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