

BASIC AUTOMOTIVE ELECTRIC

Course Length

3.0 hours – 6.0 hours

Course Description

This course helps learners to understand the concept of electricity, Ohm's law, and other electrical equations. It also introduces electrical test equipment, electrical circuit components, and different types of circuits (series, parallel and series-parallel).

Course Topics

Principles of Electricity

- ◆ Units of measure used in electricity
- ◆ Components of atoms
- ◆ Concept of electricity
- ◆ Voltage, current, resistance and power
- ◆ Ohm's law

Electrical Test Equipment

- ◆ DVOM
- ◆ Test light
- ◆ Analog meters
- ◆ Test probes

Electrical Circuit Devices

- ◆ Basic elements of an electrical circuit
- ◆ Functions of various circuit components

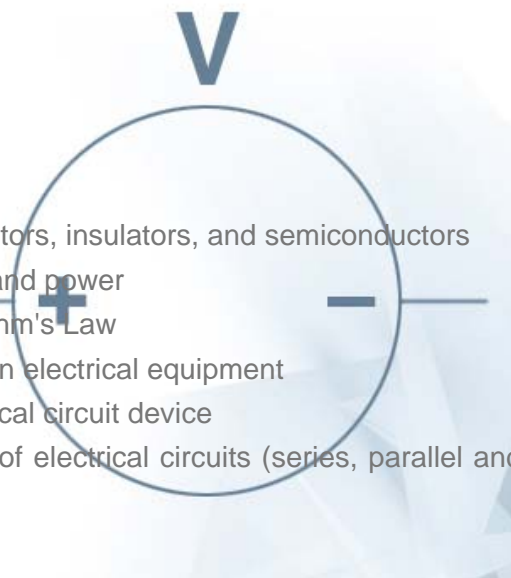
Basic Electrical Circuits

- ◆ Series circuits
- ◆ Parallel circuits
- ◆ Series-parallel circuits

Course Objectives

In this course, users will learn to:

- ◆ Understand the concept of electricity
- ◆ Identify the characteristics of conductors, insulators, and semiconductors
- ◆ Define voltage, resistance, current, and power
- ◆ Calculate electric equations using Ohm's Law
- ◆ Recognize the proper use of common electrical equipment
- ◆ Identify the components of an electrical circuit device
- ◆ Distinguish between different types of electrical circuits (series, parallel and series parallel)



Course Features

- ◆ Global navigation
- ◆ Practice pages with multiple choice, drag 'n drop, true/false
- ◆ Interactive and animated content pages
- ◆ Glossary and resource links
- ◆ Slide shows
- ◆ Final Assessment

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The screenshot displays three overlapping windows from the 'Basic Automotive Electrical' courseware. The top window, titled 'Introduction to Electricity | Conductors and Insulators', explains that atoms with many electrons in their outer rings are conductors, while those with few are insulators. It includes two diagrams: 'Conductors' showing a nucleus with many electrons in the outer ring, and 'Insulators' showing a nucleus with fewer electrons in the outer ring. The middle window is a 'GLOSSARY' with a list of terms including Electronic, Fuel Pump, Galvanized Steel, Gap Insurance, Gas Filled Shock Absorbers, Gear Ratio, Glow Plug, Glow Plug Resistance-Balance Test, Governor, Grabbing Brakes, Grade Markings, Gray Market Vehicle, Grease Gun, Grease Job, Grease Rack, Grease Seal, Gross HP, Group Injection, and Grovdler. The bottom window, titled 'Transformers', shows four diagrams illustrating current flow in primary and secondary coils under different switch conditions. A legend below the diagrams explains: 3. Current Flow in Primary, no current flow in Secondary; 4. Switch Opens: Field collapses in Primary, Negative current flow in Secondary.

A selection of pages from CTI's *Basic Automotive Electrical* courseware, featuring global navigation, instructional graphics, and glossary of terms