

Hands-On

Automotive Wiring & Repair for Electric (EV) Vehicles



Course Description

This Hands-On course contains practical Steps and Procedures in Performing Electrical Diagnostics and Repairs on Electric (EV) Vehicles, it contains only the right and recommended methods for Electrical Testing and Repairs.

It contains step-by-step procedures on the use of Testlights and multimeters for testing all kinds of Fuses, Relays, Connectors, Sensors and Actuators.

It also covers understanding Wiring diagrams and color code.

It helps to avoid wrong and unsafe Testing methods, it helps avoid bypassing and bridging in Automotive Electrical works.

Its a practical Hands-On course with relevant theories, it avoids mathematics and physics that are not needed for Repair. It can be used by everyone.



Students Will Learn

- SAFETY ON HIGH VOLTAGE EV SYSTEM
- BASIC WIRING REPAIR
- CHARGING SYSTEMS
- BATTERIES
- BATTERY COOLING SYSTEM
- MOTOR CONTROL AND RELATED ELECTRONICS
- ELECTRONIC CONTROL UNIT (ECU)
- LIGHTING
- FUSES AND RELAY BOXES
- HVAC SYSTEM.
- ELECTRONIC BRAKE
- WIPER
- SENSORS
- WINDSHIELD HEATER (if applicable)
- GLASS HEATERS (if applicable)

- SEATS
- DOORS AND LOCKS
- SUSPENSION (if applicable)
- ALARMS
- ACTUATORS
- CONTROL MODULES
- THE MULTIMETER (DMM)
- HOW TO TEST FUSES
- PHYSICAL EXAMINATION ON FUSES
- TESTING OF FUSES USING TEST LIGHT
- TESTING FUSES USING MULTIMETER
- USE OF MULTIMETER FOR TESTING FUSES
- USE OF MULTIMETER FOR POWER AND PARASITIC DRAIN TEST
- TESTING OF RELAYS USING MULTIMETER
- TYPES OF TESTS CARRIED OUT ON RELAY WITH MULTIMETER
- TESTING OF ELECTRICAL CONNECTIONS, SENSORS, ACTUATORS AND CIRCUITS
- SENSORS DIAGNOSTICS
- TYPES OF SENSORS
- HOW TO TEST SENSOR
- UNDERSTANDING OF WIRING DIAGRAMS
- COLOR CODES AND WIRE SIZES
- TESTING SENSORS AND ACTUATORS WITH MULTIMETER
- TYPES OF TESTS CARRIED OUT ON SENSORS
- CORRECT BACK PROBING OF CONNECTORS
- HOW TO TEST SENSOR CONNECTORS WITH MULTIMETER
- UNDERSTANDING MAGNETIC FIELD IS CREATED IN ELECTRICAL CIRCUITS

Target Audience

Automotive Technicians, Automotive Mechanics, Automotive Enthusiasts, Automotive Engineering students, Automotive Apprentices and anyone working on or around automotive wiring and repairs.

Prerequisites

None.

Delivery Method

Instructor-led with numerous Hands-On labs and exercises.

Equipment Requirements

(This apply's to our hands-on courses only)

BTS always provides equipment to have a very successful Hands-On course. BTS also encourages all attendees to bring their own equipment to the course. This will provide attendees the opportunity to incorporate their own gear into the labs and gain valuable training using their specific equipment.

Course Length

2 Days