



EV MAINTENANCE & TROUBLESHOOTING TRAINING



MTBM Group Sdn. Bhd. (1600656-M)

Level 8, MCT Tower, Sky Park, One City, Jalan USJ 25/1, 47650 Subang Jaya, Selangor

Course Title: EV Maintenance & Troubleshooting Training

Course Validity: 2 Days

Validity: Not Applicable

HRD Corp Scheme: Claimable

INTRODUCTION:

This training provides participants with practical knowledge and technical understanding required to perform maintenance and basic troubleshooting on electric vehicles (EV). It covers EV components, high-voltage systems, battery diagnostics, power electronics, drive systems and safety precautions. Participants will learn common EV failure modes, diagnostic procedures, inspection steps and problem-solving techniques. The programme strengthens the competency of technicians and operations personnel in ensuring EV reliability, safety and performance.

OBJECTIVE(S):

- Understand EV components, systems and maintenance requirements
- Learn safe work practices for high-voltage systems and EV servicing
- Strengthen capability in inspection, diagnostics and testing procedures
- Identify common EV faults, symptoms and failure modes
- Improve troubleshooting skills using structured diagnostic approaches
- Understand battery diagnostics, BMS functions and charge system issues
- Enhance maintenance planning for EV fleet operations
- Support safe, effective and efficient EV maintenance activities

TARGET GROUP(S):

- EV technicians, mechanics & maintenance personnel
- Fleet management, transport & logistics teams
- Engineering, operations & facility maintenance staff
- Organisations transitioning to EV fleet operations

ENTRY REQUIREMENT(S):

- Able to read, write and communicate in Malay/English

TOPIC(S):

1. Overview of EV Technology, Systems & Maintenance Requirements
2. High-Voltage Components, Safety Protocols & PPE
3. EV Drive Systems, Motors, Inverters & Power Electronics
4. Battery Systems, BMS, Charging & Diagnostic Procedures
5. Preventive Maintenance for Electric Vehicles
6. EV Troubleshooting Methods & Fault Identification Techniques
7. Diagnostic Tools, Error Codes & Data Interpretation
8. Developing EV Maintenance & Troubleshooting Plans

LIST OF REFERENCE BOOK(S):

- EV Maintenance & Diagnostics Manuals
- High-Voltage Safety Guidelines
- Battery Management System (BMS) References
- EV Standards & Industry Technical References

LIST OF TEACHING AID(S):

- LCD projector
- Computer
- Whiteboard with accessories

METHODOLOGY(S):

- Lecture
- Case studies
- Group discussions
- EV inspection exercises
- Practical troubleshooting & diagnostic workshops

TRAINING SCHEDULE

Day 1

Time	Activity / Topic
8:30 am – 9:00 am	Registration and Introduction
9:00 am – 9:45 am	Topic 1: EV Technology, Components & Maintenance Basics
9:45 am – 10:30 am	Topic 2: High-Voltage Systems, Safety Protocols & PPE
10:30 am – 10:45 am	Morning Tea Break
10:45 am – 11:30 am	Topic 3: EV Motors, Inverters & Power Electronics
11:30 am – 12:30 pm	Topic 4: Battery Systems, BMS & Diagnostic Principles
12:30 pm – 1:30 pm	Lunch Break
1:30 pm – 2:30 pm	Case Study: Common EV Component Failures
2:30 pm – 3:30 pm	Workshop: EV Inspection & Safety Procedures
3:30 pm – 3:45 pm	Afternoon Tea Break
3:45 pm – 5:00 pm	Practical Exercise: Battery & HV System Diagnostic Checks

TRAINING SCHEDULE

Day 2

Time	Activity / Topic
8:30 am – 9:00 am	Recap of Day 1 & Q&A
9:00 am – 9:45 am	Topic 5: Preventive Maintenance for EV Systems
9:45 am – 10:30 am	Topic 6: Troubleshooting Methods & Fault Identification
10:30 am – 10:45 am	Morning Tea Break
10:45 am – 11:30 am	Topic 7: Diagnostic Tools, Error Codes & Data Analysis
11:30 am – 12:30 pm	Practical: EV Fault Simulation & Troubleshooting
12:30 pm – 1:30 pm	Lunch Break
1:30 pm – 2:30 pm	Topic 8: Developing EV Maintenance & Troubleshooting Plans
2:30 pm – 3:30 pm	Group Exercise: EV Diagnostic Case Evaluation
3:30 pm – 3:45 pm	Afternoon Tea Break
3:45 pm – 5:00 pm	Final Review, Q&A & Closing