



COURSE: Electric Vehicles
COURSE ID: EV2-1
DURATION: 2 Days

Electric Vehicles

EV Diagnostics & Maintenance: Part 1 (EV2-1)

Electric vehicles are becoming common place in the workshop for maintenance, diagnostics and repair. They are here to stay. It is important to be safe, confident and skilled working on EV's. AECS has spent many weeks on research and development to create our cutting-edge EV training specifically for technicians.

In this practical training, you will get a solid understanding of maintenance, diagnostics, repair and background information on electric vehicles without the danger of exposure to high voltage. Over the two day training the following will be covered and more:

- ⚡ To build a solid foundation, we'll discover the working science behind EV's, different terms used and how it all works. We'll dive into high voltage battery state of health (SOH) diagnostics and SOH protection.

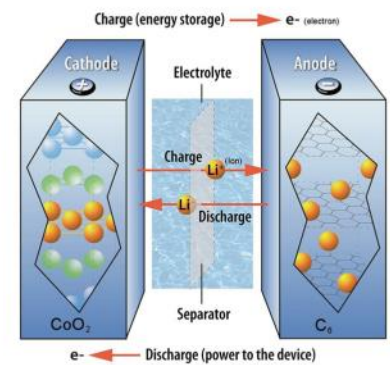


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We'll discuss the chemical breakdown of a lithium ion battery and what actually happens inside each battery cell and how the pack is affected when one cell deteriorates. What is state of health and how the SOH is actually determined. We look at HV battery temperature management, battery abuse, scan tool and dashboard data interpretation. This includes pre-purchase inspection, how to determine if a battery is of sound quality, and what is common fraud (how to reset a battery SOH indicator, and how to spot a reset indicator).



We investigate high voltage battery range. What is the state of charge (SOC) and how is it measured. We look at driver behaviour recorded by the ECU's and what components of the car need regular maintenance to increase the SOC and SOH.

Name	Value	Unit
HV Batt Current	0	A
HV BATT EMPTY	##	
HV Batt Level	15760	wh
HV Batt Level(%)	3.72	%
HV BATT VOLT	392	V
HV Battery Temp	24	degree C

HV BATTERY ENERGY CONTENT

“The practical value I can take back to the workshop. Also the illustrations used help to clarify the more complex explanations.”

-Testimonial from EV2-1 pilot training



We cover energy consumption allocation including professional maintenance on all maintenance sensitive items, such as oil changes to the transmission, brake maintenance, LED lighting, etc. How tyre types, aircon use, braking and acceleration behaviour, power steering, and charging behaviour affect the HV battery.



Why charge and discharge values are not similar across all platforms (such as chargers, measurement tools and scantools) and what the real data is. What's illegal and dangerous about certain chargers, and what to watch out for when the customer purchases a car and charger.



How to recover an EV with a flat battery. Why you can't tow an EV, what happens technically inside the motor, inverter and battery when an EV gets towed. How to perform roadside charging and what to watch out for.



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⚡ Maintenance is even more important for an EV than for a regular car. All aspects of maintenance, diagnostics and repair will be covered, for example oils, tyres, electric park brake, filter, LED lights, immobiliser, 12V system, charge ports, high voltage battery and more.



⚡ We'll give insight for when an enthusiast enters your shop with technical questions about their EV. We'll discuss home handyman tools and assist you to answer customers questions with knowledge and skill. Gain/retain your customer by knowing more than they do.

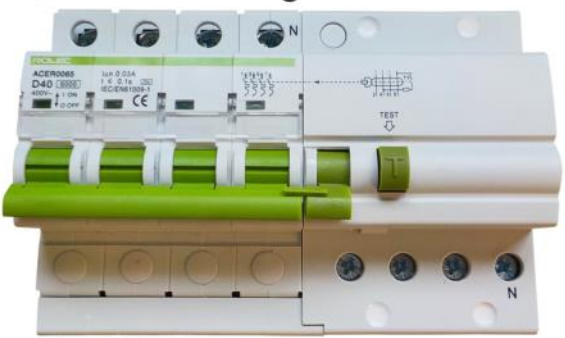


“The fact I’m empowered for my customers.”

- Testimonial from EV2-1 pilot training

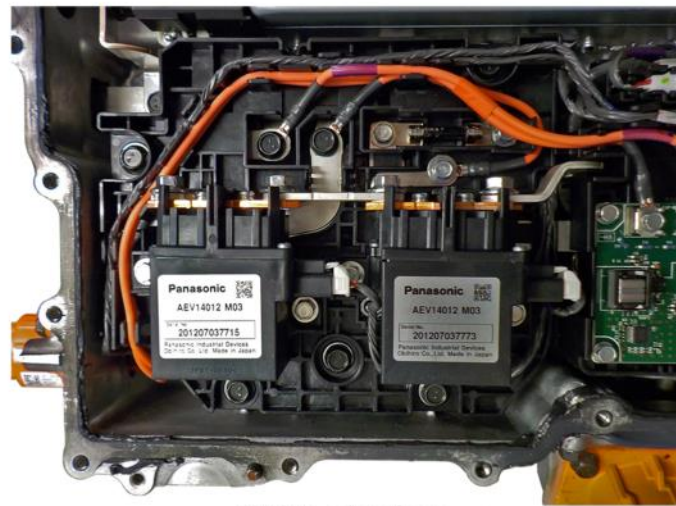


◀ Home wall charger kit ▶



illegal RCD ▲

For information on dates or to enroll please get in contact with our team.
06 874 9077 | training@aecsltd



EV junction box ▲

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