

# ALTERNATIVE FUEL VEHICLE DAMAGE ANALYSIS AND SAFETY

ALTO3

The technology needed to meet CAFE fuel efficiency standards drives vehicle makers to increase the number of alternatively fuelled models in their fleets, especially hybrid electric and pure-electric vehicle. So the chances of encountering more repairs on a variety of alternatively fuelled vehicles will only increase. This means there is a need for auto physical damage appraisers as well as technicians in a repair facility to have a sound knowledge of working around alternatively fuelled vehicles.

This course provides an understanding of how to safely approach an electric vehicle after a collision and the risks and risk-avoidance of working around alternative fuel vehicle technology. Applying knowledge gained in this course will also aid in performing a more thorough damage analysis.

## Course Content

### Module 1— Hybrid-Electric and Electric Vehicle Parts

The course begins by examining the different types of electric and hybrid-electric vehicles. The first module starts by describing the high voltage parts associated with these vehicles, including batteries, motors, inverters, converters, charges, cables, and more.

### Module 2—Approaching a Damaged Electric Vehicle

The second module is designed specifically with the safety of the collision professional in mind. Understanding how to safely approach a damaged electric vehicle is discussed through in-depth classroom conversations. The module starts with a series of activities showing how to identify whether the vehicle being approached is electric. The module continues with discussions of how to access various information sources. The module concludes with describing how to avoid hazards specific to electric vehicles.

### Module 3—Hybrid-Electric and Electric Vehicle Features

The course continues by examining specific features of hybrid-electric and electric vehicles. These features include high voltage disabling, regenerative braking, start/stop systems, cooling systems and special service notes.

Information found in this module will assist the student with conducting a thorough damage analysis of a damaged electric vehicle.

### Module 4—Alternative Fuel Vehicles

The final module of the course details other types of alternative fuel vehicles and their impact to the collision repair industry. Upon completion of the course, the student will better understand the hazards of diesel, CNG and LPG fuelled vehicles, including unique characteristics for each alternative fuel vehicle type.

## Recommendations

This course is fast-paced and covers a variety of topics related to electric and hybrid electric vehicles. It is strongly recommended that students have an understanding of Hybrid and alternate Fuel Vehicles prior to taking this course. Courses that are helpful include:

- Electric and Hybrid Electric Vehicles (ALT01)
- Hybrid Electric and Alternate Fuel Vehicles (ALT02A)

## Registration

To register for Alternative Fuel Vehicle Damage Analysis and Safety (ALT03) click [here](#) or visit [www.i-car.com.au](http://www.i-car.com.au)

## Course Highlights

Points: 1

Estimated Duration: 4 Hours

Format: Classroom & Virtual Classroom

Meets the I-CAR training requirements for the following roles:



ESTIMATOR



STRUCTURAL TECHNICIAN



NON-STRUCTURAL TECHNICIAN



ASSESSOR

## After completing this course, you will be able to:

- Explain how to take safe measures when working on hybrid electric and alternative fuel vehicles
- Understand high voltage issues with electric A/C systems
- Identify new applications for hybrid technology and unique hybrid system features
- Know how to properly care for a high voltage battery prior to and during the repair process.
- Identify the different types of alternative fuel vehicles currently on the market, as well as concepts in tomorrow's technology.

