

# MECHANICAL SYSTEMS ANALYSIS

DAM03e

**Course Format:** Online training with posttest

**I-CAR Points:** 0.75

**Estimated Duration:** 3 hour

**This course helps satisfy ProLevel training requirements for the following roles:**



Estimator



Assessor

## Course Content

### Module 1—Cooling Systems

The first module of the course explains how to identify the locations of primary and secondary damage including how to determine which critical vehicle systems are in the location of the damage. The student will learn how to identify damage to various parts of the cooling system, how to make cooling repair versus replace decisions, and determine coolant requirements.

### Module 2— Air Conditioning Systems

The second module offers information for identifying air conditioning system part damage and making repair versus replace decisions on air conditioning system parts. This module also identifies different types of air conditioning refrigerant, descriptions of air conditioning labels, and information on different parts of an air conditioning system.

### Module 3— Electrical Systems

As the student moves through the course, he or she will learn the criteria for visually inspecting and electrical system and how to make repair versus replace decisions on them. Battery identification, inspection, and testing are also discussed in this module.

### Module 4— Gasoline Electric Hybrid Vehicles

This module provides an overview of gasoline-electric hybrid vehicles. The student will gain an understanding of parts of the high-voltage systems in gasoline-electric hybrid system vehicles and describe how to work safely around a gasoline-electric hybrid vehicle.

### Module 5— Vehicle Options

In this module, the student will learn to interpret vehicle labels and understand testing procedures that can be used to analyse damage to vehicle options.

### Module 6— Drivetrain

As the student moves through the course, he or she will learn how to inspect the engine for damage and determine if engine mounts require replacement. The student will also learn how to inspect the drive axle/driveshaft for damage, make repair versus replace decisions on the engine cradle, and understand how to evacuate liquid from a combustion chamber.



# MECHANICAL SYSTEMS ANALYSIS — cont.

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## Course Content—cont.

### Module 7—Brake Systems

The course concludes with an explanation of processes for brake system parts inspection, how contaminated brake fluid affects braking performance, and how to inspect anti-lock brake systems (ABS)

## Learning Objectives

- Identify mechanical damage and vehicle systems related to the location of damage
- Identify damage to cooling systems, air conditioning systems, and their components
- Understand how to inspect vehicle electrical systems, circuit parts, and batteries
- Identify gasoline-electric hybrid vehicles and safety
- Understand electromechanical vehicle options and how to analyse engine damage
- Understand how to inspect a vehicle driveshaft, subframe, and brake system

