

# STEEL STRUCTURES DAMAGE ANALYSIS

DAM12

Properly analyzing collision-damaged vehicles so that the structural integrity is restored is critical to the repair process. This requires understanding the aspects of vehicle design and how collision energy can travel throughout a structure. Being able to thoroughly identify structural damage and industry-accepted repair practices can help ensure that your customer's vehicle is restored to its condition prior to the collision, resulting in a complete and safe repair.

## Course Content

### Module 1—Vehicle Structures

The course opens with a description of how a vehicle is designed and how it collapses under collision forces, which is a critical step in identifying structural damage during the damage analysis process. Students will also learn about different vehicle body types and their characteristics, which supports the importance of building an accurate repair plan that will not compromise the integrity of the vehicle from its original design. The student will gain an understanding of the different types of damage and how they are created, the various types of vehicle damage conditions, and how to use visual indicators to identify the type of damage. This module concludes with information on how to take quick measurements to verify potential structural problems and understand three-dimensional computerized measuring results.

### Module 2—Structural Damage Analysis

The second module of the course introduces students to specific criteria needed for determining if a structural part should be repaired or replaced, as well as repair considerations, such as whether heat can be used, or if a part can be partially replaced. The course continues with a detailed look at which parts make up the front, rear, and side structures and provides damage analysis considerations for each of these sections.

The multiple roles of stationary glass are examined with emphasis on how glass adds to the integrity of the vehicle structure. Damage analysis procedures and repair considerations for stationary glass, in addition to analysis of full-frame structures and repair and replace considerations are discussed.

## Recommendations

This course covers a range of parts and materials common on many of today's vehicles. It is recommended that students have an understanding of vehicle construction and damage analysis procedures. Other courses that may be helpful and are relevant to training for your role include:

- Vehicle Identification, Estimating Systems, and Terminology (DAM01/e)
- Advanced Material Damage Analysis (DAM08/e)

## Registration

To register for Steel Structures Damage Analysis (DAM12), visit the I-CAR website at [www.I-CAR.com](http://www.I-CAR.com).

## Course Highlights

**Credit Hours:** 3

**Estimated Duration:** 4 hours

**Format Option:** Live instruction with posttest

**Meets I-CAR® ProLevel™ or annual training requirements for the following roles:**



ESTIMATOR



AUTO PHYSICAL DAMAGE APPRAISER

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

- Identify the different types of vehicle designs
- Explain how unitized structures are designed to collapse
- Understand how different impact angles transfer collision energy and create different types of damage
- Comprehend how to make point-to-point measurements and computerized three-dimensional measuring results and identify structural damage
- Identify general repair considerations for vehicle structures, including front, side, and rear
- Identify structural parts and common techniques for analyzing damage

# I-CAR®

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