

Title	Demonstrate knowledge of the effects of structural damage on a vehicle		
Level	4	Credits	5

Purpose	People credited with this unit standard are able to demonstrate knowledge of the effects of structural damage on a vehicle.
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Classification	Motor Industry > Collision Repair
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Available grade	Achieved
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Guidance Information

1 Legislation and references

Performance of the outcomes of this unit standard must comply with the following:

- Health and Safety at Work Act 2015;
- Land Transport Rule: Vehicle Repair 1998, Rule 34001;
- Health and Safety at Work (Hazardous Substances) Regulations 2017.

2 Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.

Land Transport Rules are available online at <https://www.nzta.govt.nz/>.

3 Definitions

Company requirements refer to instructions to staff on policy and procedures that are available in the workplace. These requirements may include company policies and procedures, work instructions, manufacturer specifications and legislative requirements.

Primary damage refers to damage at the direct point of impact.

Secondary damage refers to damaged caused by transfer of force through the vehicle.

Service information may include vehicle structural repair code of practice, technical information for a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions; technical terms and descriptions; and detailed illustrations.

4 Range

Structural construction materials may include – high strength steels, mild steels, composites, aluminium types and plastics.

5 Assessment

Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable manufacturer's specifications, service information, company requirements and legislative requirements.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the effects of structural damage on a vehicle.

Performance criteria

1.1 The series of events causing structural damage from initial impact to residual damage during the collision of a vehicle are explained.

Range peak or maximum dynamic crush, period of deformation, restitution phase; primary damage, secondary damage.

1.2 Vehicle structural design factors to distribute crash energy are described.

Range design factors may include – passenger cell, crush zones, intrusion bars, use of structural construction materials, energy absorbing bumpers; evidence of three is required.

1.3 The effects of structural damage on a vehicle are explained.

Range compromised safety, body tension, alignment; body, chassis, mechanical parts, advanced driver assistance systems (ADAS).

1.4 Factors that compromise vehicle structural performance and their effects during a collision are described.

Range factors include – previous collision damage, faulty repairs, corrosion.

Replacement information	This unit standard and unit standard 31996 replaced unit standard 23978.
Planned review date	31 December 2027

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	23 July 2020	31 December 2027
Review	2	25 May 2023	N/A

Consent and Moderation Requirements (CMR) reference

0014

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.