

<b>Title</b>	<b>Identify and align aluminium structural damage on a motor vehicle</b>		
<b>Level</b>	<b>5</b>	<b>Credits</b>	<b>10</b>

<b>Purpose</b>	This unit standard is for people who work in the collision repair industry. People credited with this unit standard are able to determine the extent of the structural damage, prepare to align the vehicle body and align and repair aluminium structural damage.
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<b>Classification</b>	Motor Industry > Collision Repair
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<b>Available grade</b>	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 Rules;  
 Vehicle Inspection Requirements Manual (VIRM) – In-service certification.

#### 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/>.

The VIRM is available online at <http://vehicleinspection.nzta.govt.nz/>.

#### 3 Definitions

*Company requirements* refer to instructions to staff on policy and procedures which are documented in memo or manual format and are available in the workplace. These requirements include but are not limited to – company specifications and procedures, work instructions, manufacturer specifications, product quality specifications and legislative requirements.

*Service information* may include but is not limited to – vehicle structural repairer code of practice, technical information of a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions and specifications; technical terms and descriptions; and detailed illustrations. This may be accessed from the manufacturer.

*Suitable tools and equipment* means industry approved tools and equipment that are recognised within the industry as being the most suited to complete the task in a professional and competent manner with due regard to safe working practices.

- 4 Range  
Assessment against this unit standard applies to replacing and repairing damaged aluminium structural panels.
- Minimum of two replacements and two repairs are required.
- 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 and legislative requirements.
- 6 Recommended skills and knowledge  
Unit 5773, *Identify and align structural damage on a motor vehicle.*

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## Outcomes and performance criteria

### Outcome 1

Determine the extent of the structural damage.

#### Performance criteria

- 1.1 Direction of impact and the amount of direct and indirect damage are established.
- Range full frontal, side, angle, rear end, roll-over, top.
- 1.2 Misaligned and damaged mechanical parts are identified.
- Range steering, suspension, power train, engine, exhaust system.
- 1.3 Misaligned and damaged body panels are identified.
- Range may include but is not limited to – bonnet, guards, doors, quarter panels, front and rear panels, bootlid, inner guard panels, firewall, wheel arches, roof, under body, pillars, sill panels, radiator panel, hinges.
- 1.4 Misaligned rails and cross members are identified.
- 1.5 Impact of damage on body panels and parts is evaluated.

### Outcome 2

Prepare to align the vehicle body.

**Performance criteria**

2.1 Suitable tools and equipment that enable the repair to be carried out are selected.

Range may include but is not limited to – hammers, dollies, spoons, electric welding plant, body jack, levers, drill, panel pullers, clamps, chains, alignment and measuring systems.

2.2 Remove, store, or dispose of, parts, fittings, foam fillers, and sealers, and protect electronics.

**Outcome 3**

Align and repair aluminium structural damage.

**Performance criteria**

3.1 Body is secured to alignment machine.

3.2 Pull angles and anchor points are identified, and clamps, hooks, and/or special anchoring adapters are attached to the vehicle body and secured.

3.3 Vehicle body is aligned ensuring the metal is not cracked or holed and contains no irregularities that may impair painting.

3.4 Damaged structural panels are replaced or repaired.

3.5 Electric welding is carried out.

Range tempered aluminium; non-tempered aluminium; filler welding wire; crack tested.

3.6 Body measurements and integrity are checked.

3.7 Confirm adjacent panels, glass, trim, fittings, or vehicle electronics have not been damaged as a result of the alignment operation.

3.8 Tools, materials, and equipment are cleaned and put away, and the work area is cleaned.

<b>Planned review date</b>	31 December 2027
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	29 January 1996	31 December 2018
Review	2	20 December 1998	31 December 2018
Revision	3	16 October 2003	31 December 2018
Review	4	26 November 2007	31 December 2018
Review	5	21 April 2016	31 December 2027
Review	6	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](mailto:qualifications@hangaarorau.nz) if you wish to suggest changes to the content of this unit standard.