Title	**Demonstrate knowledge of the resistance spot welding process used for vehicle repairs**		
Level	**4**	**Credits**	**2**

Purpose	People credited with this unit standard are able to demonstrate knowledge of the resistance spot welding process used for vehicle repairs.

Classification	Motor Industry > Collision Repair

Available grade	Achieved

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.

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, product quality specifications and legislative requirements.
Service information may include – vehicle structural repairer 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 Assessment
Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable manufacturers specifications, service information, company requirements and legislative requirements.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the resistance spot welding process used for vehicle repairs.

Performance criteria

1.1 Purpose and advantages of resistance spot welding are described.

Range factory finish, range of metals, weld appearance, welding speed, operator ease of use, heat effect zone, corrosion protection, warpage.

1.2 Principles of resistance spot welder operation are described.

Range pressure and weld time, voltage and current, tip sizes, weld penetration.

1.3 The equipment required for resistance spot welding is identified.

Range transformer, electrode tips, arm sets, cables, gun, timer, control lever.

1.4 Welding procedures are described.

Range weld bonding, electrode force, machine set up, operating parameters, safety considerations.

1.5 Resistance spot welding standards for vehicle repairs are identified.

1.6 Welding faults and causes are described.

Range lack of penetration, lack of fusion, pin holes, excessive splatter, irregular weld shape, shunting, splitter.

1.7 Effect of resistance spot welding on vehicle electronics is explained.

Replacement information	This unit standard and unit standard 23989 replaced unit standard 5765.

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	26 November 2007	31 December 2023
Review	2	10 December 2020	31 December 2027
Review	3	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.