

Title	Manual metal arc weld automotive components		
Level	3	Credits	4

Purpose	<p>This unit standard is intended for people in the automotive engineering industry who are required to arc weld.</p> <p>People credited with this unit standard are able to: prepare to weld components; and manual metal arc weld automotive components on and off the vehicle or machine.</p>
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Classification	Motor Industry > Automotive Workshop Engineering
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Available grade	Achieved
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Guidance Information

- 1 It is recommended that people hold credit for Unit 24373, *Demonstrate knowledge of the manual metal arc welding process in the automotive industry* before being assessed against this unit standard.
- 2 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable service information, and company requirements and legislative requirements. This includes the knowledge and use of suitable tools and equipment.
- 3 Performance of the outcomes of this unit standard must comply with the following:
 - Health and Safety at Work Act 2015;
 - Vehicle Inspection Requirements Manual (VIRM) In-service Certification;
 - Land Transport Rule: Heavy Vehicles 2004;
 - Land Transport Rule: Vehicle Repair 1998;
 - Land Transport Rule: Vehicle Standards Compliance 2002;
 - New Zealand Standard AS/NZS 2980:2018 *Qualification of welders for fusion welding of steels*.
- 4 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.
- 5 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 refers to technical information for a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions; technical terms and descriptions; and detailed illustrations.

Suitable tools and equipment refer to 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.

6 Range

Evidence is required of manual metal arc welding a minimum of two automotive components.

Outcomes and performance criteria

Outcome 1

Prepare to weld components.

Performance criteria

1.1 Precautions are observed throughout the preparation and electric arc welding operation.

Range safety of the operator, the equipment, nearby personnel, vehicles or machines; heat shielding of adjacent vehicle or machine components.

1.2 Hazards associated with the process are identified prior to welding.

Range hazards include but are not limited to – electrical, arc radiation, fire and/or explosion, ventilation, compressed gas, confined space.

1.3 Equipment is selected and assembled to weld steel.

Range power source rating and duty cycle, welding cables, electrode holder and work clamp, setting up the plant, adjustment of equipment, selection of electrode for the job.

1.4 The components are prepared to ensure a sound basis for welding.

Range removal of contaminants from the surface to be welded, abutting ends square, suitable gap between the joint edges, components positioned in situ.

Outcome 2

Manual metal arc weld automotive components on and off the vehicle or machine.

Performance criteria

2.1 The components are welded in position on and off the vehicle or machine.

Range full penetration, no undercutting, width and height of deposited metal, no leakage occurring through the weld, appearance of finished job.

2.2 Welding is carried out without damage to the vehicle or machine electronic systems.

2.3 The welding equipment is stored in a safe and tidy manner after use.

Replacement information	This unit standard and unit standard 24373 replaced unit standard 950.
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Planned review date	31 December 2025
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	20 March 2008	31 December 2022
Review	2	29 April 2021	N/A

Consent and Moderation Requirements (CMR) reference	0014
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact MITO New Zealand Incorporated info@mito.org.nz if you wish to suggest changes to the content of this unit standard.