Title	**Use the oxyacetylene welding process in the automotive industry**		
Level	**2**	**Credits**	**3**

Purpose	This unit standard is intended for people who are at pre-employment level or who have recently started work in the automotive industry. People credited with this unit standard are able to: prepare to weld using the oxyacetylene welding (OAW) process; join two pieces of steel; and braze metal using the OAW process in the automotive industry.

Classification	Motor Industry > Automotive Workshop Engineering

Available grade	Achieved

Guidance Information

1 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.

2 Performance of the outcomes of this unit standard must comply with the following: Health and Safety at Work Act 2015.

3 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.

4 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.
OAW refers to oxyacetylene welding, also known as gas welding.
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.

Outcomes and performance criteria

Outcome 1

Prepare to weld using the OAW process.

Performance criteria

1.1 The gas cylinders, pressure regulators, hoses, and torch are inspected visually for serviceability and assembled so that there are no gas leaks, no internal dust and dirt, no traces of oil or grease, and the flash-back arrestors are in place.

1.2 A welding tip for the job is selected and fitted to the torch.

1.3 Metal is prepared for welding.

Range no contaminants on the surface to be welded, abutting ends square, suitable gap between joint edges, metal positioned securely.

1.4 Protective clothing is worn.

Range protection for eyes, hands, hair, clothing, feet, lungs.

Outcome 2

Join two pieces of steel using the OAW process in the automotive industry.

Range steel is at least 20 cm long;
lap weld, tee fillet.

Performance criteria

2.1 The metal is welded by fusion in position.

Range no undercutting, full penetration, consistent width and height, neat appearance, no holes.

2.2 The welded component is cooled in a manner which ensures that any harmful effects on the component that could result from the way in which it is cooled, are kept to a minimum.

2.3 The welded component is suitably positioned and marked while cooling, to reduce the risk of any personnel getting burnt.

2.4 Welding equipment is shut down after use and stored safely with no damage to equipment or injury to people.

Outcome 3

Braze metal using the OAW process in the automotive industry.

Performance criteria

3.1 The welding plant is assembled, and a welding tip for the job is selected and fitted to the torch.

3.2 Metal is prepared for brazing.

Range surface is clean, suitable gap between joint edges, metal positioned securely.

3.3 Protective clothing is worn.

Range protection for eyes, hands, hair, clothing, feet.

3.4 The metal is brazed having a neat appearance and minimal distortion of metal.

Range flux application, brazing technique, strength.

3.5 The welded component is cooled in a manner which ensures that any harmful effects on the component that could result from the way in which it is cooled, are kept to a minimum.

3.6 The welded component is suitably positioned and marked while cooling, to reduce the risk of any personnel getting burnt.

3.7 Welding equipment is shut down and stored safely with no damage to equipment or injury to people.

Replacement information	This unit standard and unit standard 21682 replaced unit standard 230 and unit standard 3885.

Planned review date	31 December 2025

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 July 2005	31 December 2022
Review	2	29 April 2021	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 MITO New Zealand Incorporated info@mito.org.nz if you wish to suggest changes to the content of this unit standard.