

Title	Demonstrate knowledge of and use an oxy-acetylene welding plant in the motor body industry		
Level	2	Credits	4

Purpose	This unit standard is for people who are at pre-employment level or who have recently started work in the motor body industry. People credited with this unit standard are able to: demonstrate knowledge of the oxy-acetylene welding process in the motor body industry; prepare to weld a piece of steel; weld two pieces of steel; and join metal using brazing in the motor body industry.
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Classification	Motor Industry > Vehicle Bodywork
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Available grade	Achieved
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Guidance Information

- 1 The following legislation (and subsequent amendments) is applicable to this unit standard and must be followed where applicable:
Health and Safety in Employment Act 1992.
- 2 Company policy includes workplace standards, practices, and procedures, which must comply with current legislation requirements. It is assumed the policy also meets product manufacturers' specifications, recommendations, and standards.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the oxy-acetylene welding process in the motor body industry.

Performance criteria

- 1.1 Purpose of using an oxy-acetylene plant is identified according to manufacturer's specifications.

Range	brazing, welding, soldering, easy flow, heating metal for shaping, cutting.
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- 1.2 Principle of how an oxy-acetylene plant works is identified according to manufacturer's specifications.

Range	gas bottles, welding tips, regulators, hose, cutting tips, heat range.
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- 1.3 Safety precautions required for oxy-acetylene welding are identified and explained according to manufacturer's instructions and company policy.
- Range personal safety, safety to others, gas leaks, safety to vehicle or adjacent areas and workshop.
- 1.4 Welding and brazing procedures are identified according to manufacturer's specifications.
- Range mild steel.
- 1.5 Welding faults and causes are identified according to manufacturer's specifications and company policy.
- Range undercutting, lack of penetration, lack of fusion, excessive splatter, irregular weld shape.
- 1.6 Manufacturer's instructions are identified to establish manufacturer's specifications for use.

Outcome 2

Prepare to weld a piece of steel.

Performance criteria

- 2.1 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.
- 2.2 A welding tip for the job is selected in accordance with the equipment manufacturer's chart and fitted to the torch according to manufacturer's specifications.
- 2.3 Metal is prepared for welding according to manufacturer's specifications.
- Range no contaminants on the surface to be welded, abutting ends square, suitable gap between joint edges, metal positioned securely.
- 2.4 Protective clothing is worn according to company policy and manufacturer's specifications.
- Range protection for, eyes, hands, hair, clothing, feet, lungs.

Outcome 3

Weld two pieces of steel.

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

Performance criteria

- 3.1 The metal is welded in position according to the manufacturer's specifications and company policy.
- Range no undercutting, full penetration, consistent width and height, neat appearance, no holes.
- 3.2 Safe working practices are carried out throughout the task.
- Range personal safety, safety to others, tools, workshop and equipment safety.
- 3.3 Welding equipment is shut down after use and stored safely with no damage to equipment or injury to people according to manufacturer's instructions and company policy.

Outcome 4

Join metal using brazing in the motor body industry.

Performance criteria

- 4.1 The welding plant is assembled, a welding tip for the job is selected in accordance with the equipment manufacturer's chart and fitted to the torch according to manufacturer's specifications.
- 4.2 Metal is prepared for brazing according to manufacturer's specifications and company policy.
- Range surface is clean, suitable gap between joint edges, metal positioned securely.
- 4.3 Protective clothing is worn according to manufacturer's specifications and company policy.
- Range protection for eyes, hands, hair, clothing, feet.
- 4.4 The metal is brazed having a neat appearance and minimal distortion of metal.
- Range flux application, brazing technique, strength.
- 4.5 Safe working practices are carried out throughout the task.
- Range personal safety, safety to others, tools, workshop and equipment safety.
- 4.6 Welding equipment is shut down and stored safely according to manufacturer's instructions and company policy, and with no damage to equipment or injury to people.

Replacement information	This unit standard and unit standard 230 were replaced by unit standard 21682 and unit standard 21685.
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This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	18 June 1995	31 December 2016
Revision	2	30 October 1997	31 December 2016
Revision	3	28 May 1998	31 December 2016
Review	4	10 February 1999	31 December 2016
Revision	5	13 March 2001	31 December 2016
Rollover	6	25 July 2006	31 December 2020
Rollover	7	19 November 2010	31 December 2020
Rollover	8	22 August 2014	31 December 2020
Rollover	9	22 October 2020	31 December 2021

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>.