



Australian Government

AURVTW008 Carry out oxyacetylene welding, thermal heating and cutting

Release: 1

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Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to carry out basic welding, thermal heating and cutting operations. It involves preparing for the task, setting up and operating an oxyacetylene plant, setting gas pressures, identifying and adjusting flame appropriate for welding, thermal heating or cutting requirements, selecting and using suitable personal protective equipment (PPE), and completing workplace processes and documentation.

It applies to those working in the automotive service and repair industry.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Competency Field

Vehicle body

Unit Sector

Technical - Welding, Grinding, Machining and Soldering

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Plan and prepare for oxyacetylene welding, thermal heating and cutting	1.1 Job requirements are determined from workplace instructions 1.2 Technical information and workplace procedures relating to oxyacetylene, welding, thermal heating and cutting are accessed and interpreted

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
	1.3 Hazards associated with the work are identified and risks are managed 1.4 <i>Tools and equipment</i> , including PPE, are selected and checked for serviceability 1.5 Welding, thermal heating or cutting is planned to minimise waste and use time efficiently
2. Weld, thermal heat and cut using oxyacetylene plant	2.1 Oxyacetylene gas working pressure adjustment and flame identification and setting are carried out according to workplace instructions and procedures 2.2 Welding, thermal heating and cutting is carried out without causing damage to property, vehicle or components 2.3 Welding, thermal heating and cutting operations are conducted according to job requirements, workplace procedures, and <i>safety and environmental requirements</i>
3. Complete the job	3.1 Final inspection is made to ensure work meets workplace expectations and component is presented ready for use 3.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected and stored 3.3 Tools and equipment are checked, reported if faulty, and stored according to workplace procedures 3.4 Workplace documentation is processed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	Description
Learning skills to:	locate appropriate sources of information efficiently.
Writing skills to:	legibly and accurately fill out workplace documentation.
Oral communication skills to:	- clarify instructions and procedures - clearly report quality issues and job outcomes.
Numeracy skills to:	identify and set oxyacetylene gas working pressure and gauges.

Skills	Description
Planning and organising skills to:	plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Technology skills to:	use specialist oxyacetylene equipment.

Range of Conditions

This section specifies work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Bold italicised wording, if used in the performance criteria, is detailed below.

<i>Tools and equipment</i> must include:	- oxyacetylene plant, welding, thermal heating and cutting equipment - mild steel (sheet and solid).
<i>Safety and environmental requirements</i> must include:	- work health and safety (WHS), and occupational health and safety (OHS) requirements, including procedures for: - selecting and using PPE to use oxyacetylene equipment, including approved oxyacetylene welding glasses - using specialist welding, thermal heating and cutting tools and equipment - manually handling components and welding, thermal heating and cutting equipment - identifying and controlling hazards - environmental requirements, including procedures for trapping, storing and disposing of waste materials.

Unit Mapping Information

Equivalent to AURVTW2008 Carry out oxy acetylene welding, thermal cutting and thermal heating procedures

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>

Assessment Requirements for AURVTW008 Carry out oxyacetylene welding, thermal heating and cutting

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Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- carry out oxyacetylene welding procedures on:
 - one butt joint, 150 mm long
 - one fillet joint, 150 mm long
 - one lap joint, 150 mm long
 - one exhaust pipe joint
- carry out a thermal cutting task, including a straight cut of 150 mm long
- carry out one of the following thermal heating tasks:
 - freeing a corroded bolt or fitting
 - freeing a corroded exhaust component.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS), and occupational health and safety (OHS) requirements relating to carrying out oxyacetylene welding, thermal heating and cutting, including procedures for:
 - selecting and using personal protective equipment (PPE) to use oxyacetylene equipment, including approved oxyacetylene welding glasses
 - using specialist welding, thermal heating and cutting tools and equipment
 - manually handling components and welding, thermal heating and cutting equipment
 - identifying and controlling hazards
- environmental requirements, including procedures for trapping, storing and disposing of waste materials

- technical information and workplace procedures relating to oxyacetylene welding and thermal heating and cutting
- types and characteristics of different metals
- use and operation of oxyacetylene plant, including setting and adjusting pressure and gauges
- oxyacetylene flame identification and adjustment, including:
 - natural
 - carburising
 - oxidising
- maintenance requirements of oxyacetylene equipment, including checking for oxyacetylene gas leaks from gauges, fittings and hoses
- methods and techniques for thermal heating and cutting
- procedures for oxyacetylene welding
- procedures for reporting faults and material defects
- final inspection procedures.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to having carried out oxyacetylene welding and thermal heating and cutting on vehicles, e.g. work orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive repair workplace or simulated workplace
- workplace instructions
- PPE required to use oxyacetylene welding equipment
- welding equipment, consumables and materials
- oxyacetylene plant
- tools, equipment and materials appropriate for carrying out oxyacetylene welding, thermal heating and cutting.

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