



Australian Government

AURVTW018 Carry out oxyacetylene welding, thermal heating and cutting

Release: 1

AURVTW018 Carry out oxyacetylene welding, thermal heating and cutting

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the skills and knowledge 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 within the automotive service and repair industry.

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

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.
1. Prepare for oxyacetylene welding, thermal heating and cutting	1.1 Identify job requirements from workplace instruction 1.2 Obtain and interpret technical information, workplace procedures, national standards and codes of practice, original equipment manufacturer (OEM) or authorised agency standards relating to oxyacetylene welding, thermal heating and cutting 1.3 Identify hazards and environmental issues associated with the work, assess potential risks and implement control measures from workplace health and safety requirements 1.4 Identify tools, equipment and materials required for the job and examine for serviceability 1.5 Plan welding, thermal heating or cutting activity to minimise waste and use time efficiently according to workplace

	expectations
2. Weld, thermal heat and cut using oxyacetylene plant	2.1 Carry out oxyacetylene gas working pressure adjustment and flame identification and setting according to workplace procedures, workplace health and safety and environmental requirements 2.2 Carry out welding, thermal heating, and cutting activity according to national standards and codes of practice, OEM or authorised agency standards, workplace procedures, workplace health and safety and environmental requirements
3. Complete work processes	3.1 Carry out final inspection to ensure work meets workplace expectations and component is ready for use 3.2 Clear work area and dispose of or recycle materials according to workplace procedures 3.3 Examine and store tools and equipment, ensuring faulty equipment is reported according to workplace procedures 3.4 Complete workplace documentation 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 relevant sources of oxyacetylene welding, thermal heating and cutting information efficiently
Reading skills to:	read and interpret information and ideas from workplace procedures, documentation, legislation and regulations on safe operating procedures for oxyacetylene welding, thermal heating and cutting
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
Planning and organising skills to:	- plan own work requirements - prioritise actions to achieve required outcomes - ensure tasks are completed within workplace timeframes
Technology skills to:	use specialist oxyacetylene equipment

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AURVTW018 Carry out oxyacetylene welding, thermal heating and cutting (Release 1)	AURVTW008 Carry out oxyacetylene welding, thermal heating and cutting (Release 1)	Wording changes to ensure compliance with Standards for Training Packages. Removal of references to OHS requirements. Removal of range of conditions. Addition of minor elements to knowledge evidence and assessment conditions. Addition of Australian welding standard AS1554 to knowledge evidence and assessment conditions. Addition of assessor requirements.	Equivalent

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 AURVTW018 Carry out oxyacetylene welding, thermal heating and cutting

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Performance Evidence

The candidate must demonstrate they can perform the following according to the standards defined in the elements, performance criteria and foundation skills of this unit.

The candidate must demonstrate using oxyacetylene welding, thermal heating and cutting equipment to carry out welds that safely follow workplace procedures to meet required outcomes. This includes:

- carrying 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
- carrying out a thermal cutting task:
 - a straight cut of 150 mm long
- carrying out one of the following thermal heating tasks:
 - freeing a corroded bolt or fitting
 - freeing a corroded exhaust component.

Knowledge Evidence

The candidate must demonstrate the following knowledge:

Key policies and procedures for carrying out oxyacetylene welding, thermal heating and cutting, including:

- how to locate and interpret the following:
 - original equipment manufacturer (OEM) or authorised agency standards relating to oxyacetylene welding, thermal heating and cutting activity
 - Australian welding Standard AS1554
 - workplace instructions relating to carrying out oxyacetylene welding, thermal heating and cutting activity

- workplace procedures relating to carrying out oxyacetylene welding, thermal heating and cutting activity
- the following workplace health and safety requirements for carrying out oxyacetylene welding, thermal heating and cutting:
 - 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
- the following environmental requirements for carrying out oxyacetylene welding, thermal heating and cutting:
 - procedures for trapping, storing and disposing of waste materials
- the following procedures for oxyacetylene welding
 - the use and operation of oxyacetylene plant, including setting and adjusting pressure and gauges
 - reporting faults and material defects
 - final inspection
- workplace housekeeping and documentation procedures

Technical information regarding oxyacetylene welding, thermal heating and cutting including:

- the types and characteristics of different metals
- the following oxyacetylene flame identification and adjustment processes:
 - natural
 - carburising
 - oxidising
- the following maintenance requirements of oxyacetylene equipment:
 - checking for oxyacetylene gas leaks from gauges, fittings and hoses
- methods and techniques for thermal heating and cutting
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Assessment Conditions

The assessment must:

- include access to:
 - an automotive repair workplace or simulated workplace that reflects workplace conditions - where simulation is used, it must reflect real working conditions by modelling industry operating conditions and contingencies, as well as, using suitable facilities, equipment and resources
 - repair orders and workplace instructions relating to oxyacetylene welding, thermal heating and cutting activity

- workplace procedures relating to oxyacetylene welding, thermal heating and cutting activity
- oxyacetylene welding, thermal heating and cutting equipment operating procedures
- OEM or authorised agency standards relating to oxyacetylene welding, thermal heating and cutting
- Australian welding Standard AS1554
- PPE required to use oxyacetylene welding equipment
- welding equipment, consumables and materials
- oxyacetylene plant
- tools, equipment and materials suitable for carrying out oxyacetylene welding, thermal heating and cutting
- be demonstrated in the workplace or in a simulated environment that reflects workplace conditions
- be conducted in a safe environment
- be assessed in compliance with relevant legislation and regulations; and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed
- confirm consistent performance can be applied in a range of relevant workplace circumstance

Assessor Requirements

Assessors of this unit must:

- satisfy the assessor requirements in applicable vocational education and training legislation, frameworks and/or standards
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