



Australian Government

AURVTW010 Set up and use welding equipment

Release: 1

AURVTW010 Set up and use welding equipment

Modification History

Release	Comment
Release 1	New unit of competency

Application

This unit describes the performance outcomes required to set up and use welding equipment to weld a range of materials. It requires the learner to plan and prepare the task; select and set up the correct welding equipment; weld using different welding techniques; and maintain the work area, tools and equipment.

It applies to those undertaking a Vocational Education and Training in Schools (VETiS) or pre-vocational qualification as preparation to entering the automotive service and repair or automotive manufacturing industry.

The unit is designed for use in a highly supervised context and is not suitable for use in a vocational qualification.

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 italicised text is used, further information is detailed in the range of conditions section
1. Prepare to set up and use welding equipment	1.1 <i>Safety and environmental requirements</i> are sourced and interpreted 1.2 Task instruction is interpreted and welding equipment, tools and

ELEMENTS	PERFORMANCE CRITERIA
	materials needed to complete the task are determined 1.3 Manufacturer specifications and workplace procedures for use of welding equipment and associated materials are sourced and interpreted 1.4 Potential hazards and risks associated with task are identified and reported to workplace supervisor
2. Set up welding equipment and materials	2.1 Identified welding equipment, tools and materials are sourced and checked according to manufacturer specifications, workplace procedures and safety requirements 2.2 Welding equipment is set up according to manufacturer specifications, workplace procedures and safety requirements 2.3 Materials to be welded are identified and sourced
3. Use welding equipment	3.1 Welding equipment and materials set up for the task are checked prior to use according to manufacturer specifications, workplace procedures and safety requirements 3.2 Welding method and precautions outlined in the task instruction are interpreted and followed 3.3 Welding task and demonstration are carried out correctly according to manufacturer specifications, workplace procedures and safety requirements
4. Complete work processes	4.1 Final inspection is made to ensure work is completed according to task instruction and workplace standards 4.2 Welding equipment and tools are checked and stored in a condition ready for use according to workplace procedures, or tagged and reported where necessary 4.3 Problems with welding equipment or tools are reported according to workplace procedures 4.4 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected and stored according to environmental requirements and workplace procedures 4.5 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 welding information and procedures.
Reading skills to:	- select and interpret key information from manufacturer specifications, safety requirements and workplace procedures to set up and safely operate welding equipment - select and interpret key information from environmental requirements and workplace procedures to ensure a clean and safe work site.
Writing skills to:	legibly and accurately fill out workplace documentation using correct industry terminology and conventions.
Oral communication skills to:	participate effectively in verbal exchanges using questioning and active listening to request, clarify and clearly convey information.
Numeracy skills to:	- use basic mathematical operations, including addition, subtraction, multiplication, division to calculate percentages, and to calculate, calibrate and set equipment settings - read and interpret numerical information in welding equipment identification figures.
Planning and organising skills to:	plan own work and prioritise actions to set up, undertake and complete the welding task.
Self-management skills to:	recognise own limitations when selecting and using tools and welding equipment and seek timely advice.
Problem-solving skills to:	- identify hazards or potential hazards and take action to minimise risk - refer problems that cannot be readily resolved and seek assistance from workplace supervisor.
Technology skills to:	set up and operate equipment and tools required to complete the welding task.

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>Safety and environmental requirements</i> must include:	- information about key aspects of work health and safety (WHS), occupational health and safety (OHS) and environmental requirements, including: - use of personal protective equipment, including safety glasses
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	- and welding helmets, ear protections and safety footwear • use of fume extraction system and welding bay • disposal of welding material and wastes.
Welding equipment, tools and materials must include:	• one of the following welders: • metal arc welder • gas metal arc (MIG) welder • welding bay, curtains and fume extraction • fluxes, gases, welding rods and wire.
Setting up welding equipment must include:	• checking for leaks from gas bottles • checking and adjusting gas pressures • checking gas plant earth straps and clamps.
Welding task and demonstration must include:	• producing the following types of welds: • butt weld • lap weld • bead run

Unit Mapping Information

No equivalent unit.

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 AURVTW010 Set up and use welding equipment

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Performance Evidence

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

- set up and use welding equipment on at least two occasions.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- key aspects of work health and safety (WHS), occupational health and safety (OHS) and environmental requirements, including:
 - safety data sheets (SDS) and toxic chemicals and gases used and produced in welding
 - potential hazards and risks relating to welding, including fire hazards and ultraviolet skin and eye damage
 - use of personal protective equipment, including safety glasses and welding helmets, ear protections and safety footwear
 - use of fume extraction system and welding bay
 - disposal of welding material and wastes
- types of welding equipment, including:
 - metal arc
 - gas metal arc
- types of fluxes and gases used in welding
- welding equipment set-up procedures
- types and purposes of different welding techniques
- key steps in different welding techniques.

Assessment Conditions

Assessors must satisfy SNR/AQTF assessor requirements.

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

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to welding activities, e.g. repair 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 workplace or simulated workplace
- welding equipment and tools, including at least one of the following:
- metal arc welder
- MIG welder
- welding bay, curtains and fume extraction
- fluxes, gases, welding rods and wire.

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