



Australian Government

AUMGTW001 Perform basic welding, thermal cutting, heating and gouging

Release: 2

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Modification History

Release	Comment
Release 1	Unit updated to reflect the new standards for Training Packages Replaces AUMGTW3001 Conduct basic welding, thermal cutting, heating and gouging operations
Release 2	Updated for clarity and policy adherence

Application

This unit describes the performance outcomes required to perform basic welding, thermal cutting, heating and gouging operations.

It applies to those in the automotive manufacturing industry and involves the application of skills and knowledge at a production worker level.

Licensing, legislative, regulatory or certification requirements may apply to this unit in some jurisdictions. Users are advised to check with the relevant regulatory authority.

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 work	1.1 Identify job requirements and welding information from work instructions 1.2 Identify, select and inspect welding equipment and resources 1.3 Identify work health and safety (WHS) requirements according to workplace procedures 1.4 Obtain materials and components of the required size, type and quantity, and inspect for compliance 1.5 Plan work areas and welding according to workplace

Elements	Performance Criteria
	procedures
2. Perform basic welding	2.1 Set up weld equipment to suit job requirements and workplace procedures 2.2 Select welding methods to suit job requirements 2.3 Carry out welding according to workplace standards and without causing damage to property, vehicle or components
3. Perform basic thermal cutting, heating and gouging work	3.1 Set up basic thermal cutting, heating and gouging equipment to suit job requirements and workplace procedures 3.2 Select basic thermal cutting, heating and gouging equipment to suit job requirements 3.3 Carry out basic thermal cutting, heating and gouging according to workplace standards and without causing damage to property, vehicle or components
4. Complete work processes	4.1 Check completed work against job specifications 4.2 Collect and store materials that can be reused 4.3 Remove waste and scrap materials according to workplace procedures 4.4 Clean work area and maintain equipment 4.5 Identify, tag and report faulty equipment 4.6 Complete workplace documentation in line with requirements

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skills	Description
Reading skills to:	- interpret sketches and drawings - interpret safety data sheets (SDS) - identify WHS signs and symbols in the workplace - interpret workplace procedures; job instructions; and welding, cutting and heating plan.
Writing skills to:	- complete basic welding, heating and cutting job cards - complete faulty equipment tags.
Numeracy skills to:	- identify and set gas working pressures - set machine settings - measure materials to specifications.

Digital literacy skills to:	• use basic electronic welding and thermal cutting equipment.
Planning and organising skills to:	• plan and prepare equipment, work area and materials to job specifications.
Problem-solving skills to:	• identify workplace hazards.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AUMGTW001 Perform basic welding, thermal cutting, heating and gouging (Release 2)	AUMGTW001 Perform basic welding, thermal cutting, heating and gouging (Release 1)	Minor updates to Assessment Requirements. Performance Criteria changed from passive to active voice.	Equivalent

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bd587669-08b3-4cd5-85f0-f9fa0c6304c1>

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Performance Evidence

Before competency can be determined, individuals must have competently demonstrated basic welding, thermal cutting, heating and gouging operations; each on a minimum of three occasions.

Individuals must demonstrate they can:

- apply workplace requirements, procedures and workplace health and safety (WHS) practices in relation to:
 - weld production
 - work quality
- perform gas metal arc welding (GMAW) and manual metal arc welding (MMAW) processes
- perform oxy-acetylene welding processes
- perform thermal cutting, heating and gouging processes
- use relevant tools and equipment for the process
- check completed work against job specifications
- collect and store materials that can be reused
- clean work area and maintain equipment complete workplace documentation relating to basic welding, thermal cutting, heating and gouging operations.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes:

- work health and safety (WHS) requirements in relation to basic welding, thermal cutting, heating and gouging work tasks, including personal protective equipment (PPE)
- types of welding rods and their application

- MMAW techniques
- GMAW techniques
- thermal cutting, heating and gouging techniques
- welding quality standards
- oxy-acetylene 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 the vehicles or components on which they have performed basic welding, thermal cutting, heating and gouging, e.g. production work sheets.

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 manufacturing workplace or simulated workplace
- vehicles or components that require basic welding, thermal cutting, heating and gouging operations
- WHS equipment, including PPE relating to basic welding, thermal cutting, heating and gouging
- workplace procedures, equipment and operating instructions relating to basic welding, thermal cutting, heating and gouging
- welding consumables and materials
- welding equipment and accompanying operating instructions, including:
 - gas metal arc welding (GMAW) equipment
 - manual metal arc welding (MMAW) equipment
 - oxy-acetylene plant and equipment
 - thermal cutting, heating and gouging equipment
- work sheets relating to basic welding, thermal cutting, heating and gouging operations.

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