



Australian Government

AURVTW2003 Carry out gas metal arc welding procedures

Release 1

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Modification History

Release	Comment
Release 1	Replaces AURV281308A Carry out gas metal arc (MIG) welding procedures Unit code updated to meet policy requirements Minor changes to unit title Reference to OHS legislation replaced with new WHS legislation Licensing statement added to unit descriptor

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to carry out gas metal arc (MIG) welding procedures appropriate to the repairs conducted in the retail, service and repair streams. Licensing, legislative, regulatory or certification requirements may apply to this unit in some jurisdictions. Users are advised to check with the relevant regulatory authority.
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Application of the Unit

Application of the unit	Work requires individuals to demonstrate some discretion, judgement and problem solving skills in lifting, safety equipment, MIG welding procedures, environmental issues, repair procedures and vehicle operational requirements.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for work	1.1. Work instructions are used to determine job requirements including job sheets, quality and quantity of materials. 1.2. Job specifications are read and interpreted. 1.3. Workplace health and safety requirements, including personal protection needs, are observed throughout the work. 1.4. Materials for repairs and replacements are selected and inspected for quality. 1.5. Correct hand, power tools and safety equipment for safe use. 1.6. Products are determined to minimise waste materials. 1.7. Procedures are identified for maximising energy efficiency whilst completing the job.
2. Carry out gas metal arc (MIG) welding procedures	2.1. Gas metal arc (MIG) welding procedures are completed without causing damage to any component or system. 2.2. Information is accessed from appropriate sources to enable welding to be performed in accordance with vehicle and equipment manufacturer procedures. 2.3. MIG welding is carried out according to a standard that meets industry regulations/guidelines, WHS legislation, statutory legislation and enterprise policy/procedures.
3. Clean up work area and maintain equipment	3.1. Material that can be reused is collected and stored. 3.2. Waste and scrap is removed following workplace procedures. 3.3. Equipment and work area are cleaned and inspected for serviceable conditions in accordance with workplace procedures. 3.4. Unserviceable equipment is tagged and faults identified in accordance with workplace. 3.5. Operator maintenance is completed in accordance with manufacturer's specifications and site procedures. 3.6. Tooling is maintained in accordance with workplace procedures.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- apply research and interpretive skills sufficient to locate, interpret and apply manufacturer/component supplier procedures, workplace policies and procedures
- apply analytical skills required for the identification and analysis of technical information
- apply plain English literacy and communication skills in relation to dealing with customers and team members
- apply questioning and active listening skills for example when obtaining information from customers
- apply oral communication skills sufficient to convey information and concepts to customers
- apply planning and organising skills to own work activities, including making good use of time and resources, sorting out priorities and monitoring one's own performance
- interact effectively with other persons both on a one-to-one basis and in groups, including understanding and responding to the needs of a customer and working effectively as a member of a team to achieve a shared goal
- establish safe and effective work processes which anticipate and/or resolve problems and downtime, to systematically develop solutions to avoid or minimise reworking and wastage
- use mathematical ideas and techniques to calculate time, assess tolerances, apply accurate measurements, calculate material requirements and establish quality checks
- use workplace technology related to welding systems, including the use of measuring equipment and communication devices and the reporting/documenting of results

Required knowledge

Required knowledge includes:

- WHS regulations/requirements
- equipment safety requirements
- personal safety requirements (e.g. toxic fumes/lead poisoning)
- types of materials to be welded
- types of MIG welding wire and their application
- types of gases and their application
- MIG welding processes, techniques and faults

REQUIRED SKILLS AND KNOWLEDGE

- equipment set up and maintenance procedures
- workplace safety policies and procedures
- workplace guidelines regarding acceptable tolerance levels to be considered as per job sheet and manufacturer specification
- procedures for reporting faults and material defects

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Interpret work order and locate and apply relevant information.
- Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment.
- Read and interpret communication procedural information from job sheets to prepare for work.
- Identify materials used in the work process.
- Follow work instructions, operating procedures and inspection processes to:
 - minimise the risk of injury to self or others
 - prevent damage and wastage of goods, equipment and products
 - maintain required production output and product quality
- Identify, set up, operate and maintain MIG welding, lifting and measuring equipment.

Context of, and specific resources for assessment

- Assessment may occur on the job or in a workplace simulated facility with relevant process equipment, materials, work instructions and deadlines.
- Access to vehicle and manufacturer specifications as identified in the Range Statement and standard operating procedures.

Method of assessment

- Assessment methods must confirm consistency of performance over time and in a range of workplace relevant contexts.
- Assessment should be by direct observation of tasks and questioning on underpinning knowledge.
- Assessment should be conducted over time and may be in conjunction with assessment of other units of competency.
- Competence in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
MIG welding	MIG equipment to include • MIG welders
Materials	Materials include: • MIG welding wire and gas
Methods	Methods include: • MIG welding methods and preparation. Methods should be applied under normal operating conditions
Work practices	Work practices must abide by: • workplace health and safety requirements include OHS legislation, material safety management systems, hazardous substances and dangerous goods code, local safe operating procedures and Australian Design Rules regulations • work is carried out in accordance with legislative obligations, environmental legislation, relevant health regulations, manual handling and lifting equipment procedures and organisation insurance requirements
Resources	Resources may include: • hand tools, MIG welding machines and safety equipment • measuring equipment, marking out equipment and lifting equipment • MIG welding wire and appropriate gases
Personal protective equipment	Personal protective equipment is to include that prescribed under legislation, regulations and enterprise policies and practices

RANGE STATEMENT**Information/documents**

Sources of information/documentation may include:

- workplace procedures relating to the use of tools and equipment
- work instructions, including:
 - job sheets
 - vehicle manufacturer specifications
 - enterprise operating procedures
 - component manufacture specifications
 - customer requirements
 - industry/workplace codes of practice
 - statutory legislation for vehicle road worthiness, including Australian Design Rules
 - material safety data sheets
 - workplace procedures relating to reporting and communication
 - manufacturer specifications and operational procedures

Unit Sector(s)**Unit sector**

Vehicle body

Co-requisite units

Not applicable.

Competency field**Competency field**

Technical - Welding, Grinding, Machining and Soldering