



Australian Government

AUMGTW003 Perform manual metal arc welding

Release: 1

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Modification History

Release	Comment
Release 1	Unit updated to reflect the new standards for Training Packages Replaces AUMGTW3003 Perform manual metal arc welding operations

Application

This unit describes the performance outcomes required to prepare and weld components using the manual metal arc welding (MMAW) process.

It applies to those in an automotive manufacturing environment and involves the application of skills and knowledge at a specialist 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.

Competency Field

Manufacturing - Bus, Truck and Trailer

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. Plan and prepare	1.1 Work order, job specification and resources are identified and inspected for compliance 1.2 Welding standards are identified 1.3 Weld specifications are identified from work sheets and work instructions 1.4 Weld size, type, sequence and quantity of materials are identified

Elements	Performance Criteria
	1.5 Welding plan is prepared 1.6 Work area is prepared, and potential hazards identified according to workplace procedures
2. Weld materials	2.1 Workplace procedures are identified and followed 2.2 Welding equipment is set and used according to operating procedures 2.3 Distortion prevention measures are identified and adjusted if required 2.4 Welding equipment is set and used according to operating procedures 2.5 Test runs are conducted according to work instruction and quality requirements 2.6 Materials are welded using MMAW process to required specifications
3. Check welds	3.1 Weld quality and specifications are confirmed by non-destructive inspection 3.2 Weld defects are identified, prepared and re-welded, and appropriate personnel notified
4. Complete job	4.1 Welds are cleaned using appropriate techniques according to work instructions 4.2 Work area is cleaned and cleared of waste according to workplace procedures 4.3 Welding equipment is cleaned, maintained and stored according to workplace procedures 4.4 Faulty equipment is identified, tagged and reported 4.5 Work sheets are completed according to workplace procedures

Foundation Skills

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

Skills	Description
Reading skills to:	- interpret work health and safety (WHS) requirements, workplace procedures, work instructions, job specifications and welding plans - interpret welding standards - identify weld inspection reports and weld quality requirements

	interpret welding machine operating procedures.
Writing skills to:	- complete welding plan - legibly complete work sheets and inspection reports - prepare weld rectification plan - complete faulty equipment tags.
Numeracy skills to:	- identify and set machine settings - measure material from job specifications - calculate material requirements - calculate welding time.
Planning and organising skills to:	- prepare work area, welding equipment and materials to job specifications - manage job outcomes and production time.
Problem-solving skills to:	identify and apply distortion prevention measures.
Technology skills to:	use welding 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>Resources</i> must include:	- manual metal arc welding equipment - materials and equipment for preventing distortion during welding, including braces, clamps, jigs and fixtures - materials for welding - materials and equipment for non-destructive testing of welds - workplace welding standards relevant to the work being performed.
<i>Workplace procedures</i> must include:	- operating procedures of manual metal arc equipment - procedures for recording and reporting manual metal arc welding processes - WHS and environmental requirements relating to manual metal arc welding procedures.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -

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