



Australian Government

AURVTW004 Carry out tungsten inert gas welding

Release: 1

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Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to carry out welding operations using tungsten inert gas (TIG) welding. It involves preparing for the task, selecting and using TIG welding equipment, setting gas flow pressures and welder settings, selecting and using suitable personal protective equipment (PPE), performing welding to given specifications, inspecting and testing weld quality, and completing workplace processes and documentation.

It applies to those working in the automotive service and repair industry.

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 and italicised text is used, further information is detailed in the range of conditions section.
1. Plan and prepare to weld	1.1 Job requirements are determined from workplace instructions 1.2 <i>Welding information</i> is accessed and interpreted 1.3 Hazards associated with the work are identified and risks are managed 1.4 <i>Tools and equipment</i> are selected and checked for serviceability

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	1.5 Work area is prepared and work is planned to carry out TIG welding, minimise waste, and use time efficiently
2. Weld materials using TIG welder	<p>2.1 TIG welding equipment is prepared, set up and adjusted for specific welding job requirement</p> <p>2.2 TIG welding equipment is used according to manufacturer operating procedures and <i>safety and environmental requirements</i></p> <p>2.3 Weld test runs are conducted according to workplace instructions and weld specifications</p> <p>2.4 Materials are welded using standard or inverter TIG process to industry standards</p>
3. Check welds	<p>3.1 Welds are cleaned using appropriate tools and techniques and according to workplace instructions</p> <p>3.2 Weld specifications and quality requirements are checked and confirmed by non-destructive inspection</p> <p>3.3 Weld defects are identified, prepared for re-welding as required, and appropriate personnel are notified</p>
4. Complete work processes	<p>4.1 Final inspection is made to ensure work meets workplace expectations and component is presented ready for use</p> <p>4.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected and stored</p> <p>4.3 Tools and equipment are checked, reported if faulty, and stored according to workplace procedures</p> <p>4.4 Workplace documentation is processed according to workplace procedures</p>

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:	<ul style="list-style-type: none"> locate appropriate sources of information efficiently.
Writing skills to:	<ul style="list-style-type: none"> legibly and accurately fill out workplace documentation.
Oral communication skills	<ul style="list-style-type: none"> clarify instructions and procedures

Skills	Description
to:	<ul style="list-style-type: none"> clearly report quality issues and job outcomes.
Numeracy skills to:	<ul style="list-style-type: none"> identify and set TIG welder settings identify weld measurements from job requirements measure material from specifications.
Planning and organising skills to:	<ul style="list-style-type: none"> plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Problem solving skills to:	<ul style="list-style-type: none"> identify defects, quality issues and potential problems associated with TIG welding processes and refer problems to appropriate person.
Technology skills to:	<ul style="list-style-type: none"> use specialist TIG 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>Welding information</i> must include:	<ul style="list-style-type: none"> manufacturer operating procedures national standards and codes of practice for welding workplace procedures.
<i>Tools and equipment</i> must include:	<ul style="list-style-type: none"> standard and inverter TIG equipment tungsten electrodes protective screens and fume extraction system shielding gas filler rods PPE, including approved welding helmets.
<i>Safety and environmental requirements</i> must include:	<ul style="list-style-type: none"> work health and safety (WHS), and occupational health and safety (OHS) requirements, including procedures for: <ul style="list-style-type: none"> selecting and using PPE for TIG welding, including approved welding helmets using specialist welding tools and equipment using protective screens and fume extraction system manually handling vehicle components and TIG equipment identifying and controlling hazards environmental requirements, including procedures for trapping, storing and disposing of waste materials.

Unit Mapping Information

Equivalent to AURVTW2004 Carry out gas tungsten arc welding procedures

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>