



Australian Government

AURVTW2007 Conduct oxy-acetylene, thermal heating and cutting

Release 1

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Modification History

Release	Comment
Release 1	New unit of competency

Unit Descriptor

Unit descriptor	<p>This unit describes the performance outcomes required to set up an oxy-acetylene plant; follow safety requirements, including adjusting gauges to recommended working pressures and identifying flames; and conduct thermal heating and thermal cutting operations.</p> <p>Licensing, legislative, regulatory or certification requirements may apply to this unit in some jurisdictions. Users are advised to check with the relevant regulatory authority.</p>
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Application of the Unit

Application of the unit	<p>Work applies to body repairers or dismantlers in the auto body repair and related vehicle industry environment. Skills and knowledge are to be used within the scope of the job role.</p> <p>Work requires individuals to demonstrate judgement and problem-solving skills in managing own work activities and contributing to a productive team environment.</p>
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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 required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge and/or 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. Determine job requirements	1.1. Job specifications and requirements are interpreted and determined from job sheets and work instructions 1.2. Appropriate workplace health and safety (WHS) practices are identified and adhered to according to WHS, legislative and workplace requirements 1.3. Information is accessed from appropriate sources to enable oxy-acetylene safety, set-up, flame adjustment, thermal heating and thermal cutting operations 1.4. Approved methods and equipment are accessed and used
2. Plan and prepare work	2.1. Required resources are identified, obtained and inspected for safety and compliance with job specifications 2.2. Relevant plans, drawings and texts are selected and interpreted according to work plan and job sheet instructions 2.3. Correct working pressures and flame adjustment are applied and inspected for compliance with job specifications 2.4. Work is sequenced, prioritised and considered according to specification requirements 2.5. Work areas are prepared according to workplace requirements and procedures 2.6. Potential hazards are identified and prevention control measures selected according to work plan and workplace procedures
3. Conduct work	3.1. Oxy-acetylene set-up and flame adjustment operations are carried out according to industry standards 3.2. Thermal heating is carried out according to industry and workplace standards and job requirements 3.3. Thermal cutting operations are carried out according to industry and workplace standards
4. Finalise work processes	4.1. Work area is cleaned and tidied according to workplace procedures 4.2. Waste and scrap materials are removed following workplace and environmental requirements and procedures 4.3. Tools and equipment are checked and faulty items are identified and tagged 4.4. Equipment maintenance activities are completed according to workplace and manufacturer specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- communication skills to follow workplace verbal instructions
- initiative and enterprise skills to recognise a workplace problem or potential problem and take action
- learning skills to identify sources of information, seek assistance and expert knowledge to develop skills and understanding
- literacy skills to:
 - understand quality procedures
 - read and follow information in written job instructions, specifications, standard operating procedures, charts, lists, drawings and other reference documents
- numeracy skills to interpret oxy-acetylene pressure gauge and measuring equipment
- planning and organising skills to:
 - plan set-up, adjustment, cutting and heating requirements and follow job specification
 - plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed on time
 - identify risk factors and take action to minimise them
- problem-solving skills to:
 - refer problems outside area of responsibility to appropriate person and suggest possible causes
 - seek information and assistance as required to solve problems
- self-management skills to:
 - recognise own limitations and seek advice
 - follow workplace policies and documentation, such as industry code of practice and procedures
- teamwork skills to apply knowledge of own role to complete activities efficiently to support team activities and tasks
- technical skills to use workplace tools and equipment relating to oxy-acetylene plant, thermal heating and thermal cutting of vehicle sectional repairs, including:
 - specialist tools and equipment

Required knowledge

- WHS and environmental regulations and workplace policies and procedures needed to carry out work in a manner that ensures the safety of people and equipment
- safety procedures, specifications and schedules relating to work
- workplace quality system documentation covering instructions, procedures, performance indicators and review processes or equivalent
- environmental protection requirements relating to the disposal of waste material

REQUIRED SKILLS AND KNOWLEDGE

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

- established communication channels and protocols
- problem-identification and resolution techniques
- equipment safety requirements
- personal protective equipment requirements
- procedures for operating oxy-acetylene working pressure gauges for thermal cutting and thermal heating operations
- different oxy-acetylene flames and their application
- procedures for using oxy-acetylene thermal heating and thermal cutting equipment and associated safety requirements

Evidence Guide

EVIDENCE GUIDE	
<p>The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy all of the requirements of the performance criteria and required skills and knowledge.</p> <p>A person who demonstrates competency in this unit must be able to:</p> <ul style="list-style-type: none"> • comply with relevant regulations, standards, codes of practice, established safe practices, and workplace policies and procedures • maintain working knowledge of current work systems and practices • apply, within scope of own role, the requirements of the job or work role: <ul style="list-style-type: none"> • achieve oxy-acetylene set-up, cutting and heating goals • achieve workplace quality goals • effectively apply problem-solving techniques • conduct oxy-acetylene safety, set-up and flame adjustment processes • conduct thermal cutting processes • conduct thermal heating processes • use relevant tools and equipment.
Context of, and specific resources for assessment	<p>Competency is to be assessed in the workplace or a simulated workplace environment that accurately reflects performance in a real workplace setting.</p> <p>Assessment is to occur:</p> <ul style="list-style-type: none"> • using standard workplace practices and procedures • following safety requirements • applying environmental constraints. <p>Assessment is to comply with relevant:</p> <ul style="list-style-type: none"> • regulatory requirements • Australian standards • industry codes of practice. <p>The following resources must be made available for the assessment</p>

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Overview of assessment

of this unit:

- a safe work environment
- oxy-acetylene plant
- thermal heating and cutting equipment
- hand tools
- safety equipment
- equipment operating instructions
- equipment safety instructions.

Method of assessment

Assessment must satisfy the endorsed Assessment Guidelines of this Training Package.

Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with the application of required skills and knowledge.

Assessment methods must be by direct observation of tasks and include questioning on required skills and knowledge to ensure correct interpretation and application.

Competence in this unit may be assessed in conjunction with other units which together form part of a holistic work role.

Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate the needs of diverse clients.

Assessment processes and techniques must be culturally sensitive and appropriate to the language, literacy and numeracy capacity of the candidate and the work being performed.

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, 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.

<p><i>Workplace health and safety requirements:</i></p>	<ul style="list-style-type: none"> • are those prescribed under legislation, regulations, codes of practice and policies and procedures • may include: <ul style="list-style-type: none"> • use of personal protective equipment and clothing • use of fire-fighting equipment • first aid equipment • hazard and risk control and elimination • systems covering the use of hazardous materials and substances • manual-handling procedures, including for lifting and carrying.
<p><i>Legislative requirements</i> may include:</p>	<ul style="list-style-type: none"> • environmental protection and regulations • duty of care • industry codes of practice.
<p><i>Workplace requirements</i> may include:</p>	<ul style="list-style-type: none"> • environmental management: waste disposal, recycling and re-use guidelines • emergency and evacuation procedures • equipment use procedures • legal obligations • maintenance and storage procedures • WHS requirements • workplace guidelines • policies and procedures relating to own role and responsibility • technical manuals • quality and continuous improvement processes • recording and reporting guidelines.
<p><i>Information</i> may include:</p>	<ul style="list-style-type: none"> • equipment manufacturer specifications • workplace operating procedures • customer requirements • industry codes of practice • material safety data sheets (MSDS).
<p><i>Flames</i> may include:</p>	<ul style="list-style-type: none"> • natural • carburising

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	<ul style="list-style-type: none"> • oxidising.
Resources may include:	<ul style="list-style-type: none"> • hand tools • oxy-acetylene thermal heating equipment • oxy-acetylene thermal cutting equipment • job sheets, drawings and work instructions • workplace or simulated workplace.

Unit Sector(s)

Competency field	Vehicle Body
Unit sector	Technical – Welding, Grinding, Machining and Soldering

Custom Content Section

Not applicable.