



Australian Government

AURVTS004 Repair vehicle composite material components

Release: 1

AURVTS004 Repair vehicle composite material components

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to repair components on vehicle bodies using composite materials. It involves preparing for the task, selecting and using specialist tools and equipment, identifying suitable composite materials, calculating material quantities, mixing and applying recommended composite materials to repair components according to workplace and customer specifications, and completing workplace processes and documentation.

It applies to those working in the automotive service and body 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 – Fabrication

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. Prepare to repair vehicle composite material component	1.1 Workplace instructions are used to determine job requirements 1.2 Fibreglass and composite material repair information is accessed and interpreted from workplace procedures and manufacturer specifications

Elements Elements describe the essential outcomes.	Performance Criteria 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.
	1.3 <i>Composite materials</i> are identified, selected and inspected for quality 1.4 Hazards associated with the work are identified and risks are managed 1.5 Work area with approved ventilation is checked for correct operation and faults are reported to authorised personnel 1.6 <i>Composite tools and equipment</i> and personal protective equipment (PPE) are identified and checked for serviceability 1.7 Work area is prepared and work is planned to identify methods for repairing a vehicle using composite materials and to minimise waste
2. Carry out repair activities	2.1 Items to be repaired are located and damage or faults are assessed to determine repair methods 2.2 Tools and equipment are set up and materials are mixed and prepared for use 2.3 Repairs to composite material components are carried out according to workplace procedures and <i>safety and environmental requirements</i> 2.4 Reinforcement techniques are applied to reinstate pre-damage strength to composite materials 2.5 Finishing techniques are applied to present composite surfaces to manufacturer and workplace quality standards 2.6 Repairs to composite material components are completed without causing damage to equipment and components
3. Complete work processes	3.1 Final inspection is made to ensure work meets workplace and customer specifications, and components are presented ready for use 3.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected and stored 3.3 Tools and equipment are checked, reported if faulty, and stored according to workplace procedures 3.4 Workplace documentation is processed according to workplace procedures

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:	locate specifications and relevant information efficiently.
Writing skills to:	legibly and accurately fill out workplace documentation.
Oral communication skills to:	- clarify instructions and procedures - clearly report quality issues and job outcomes.
Numeracy skills to:	- use basic mathematical operations, including addition, subtraction, multiplication and division to: - calculate component surface area - calculate quantities of composite and fibreglass materials - determine ratios and mixing percentages.
Planning and organising skills to:	plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Technology skills to:	use specialist composite material tools and 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>Composite materials</i> must include:	- composite materials, including: - fibreglass matting - gel coats - release agents - resins - catalysts - cleaning materials.
<i>Composite tools and equipment</i> must include:	- composite material measuring equipment - specialist hand tools.
<i>Safety and environmental requirements</i> must include:	work health and safety (WHS), and occupational health and safety (OHS) requirements, including procedures for:

	• selecting and using personal protective equipment (PPE) • using tools and equipment • satisfying ventilation requirements for work area • using safety data sheets (SDS) for composite materials • handling and storing hazardous resins and chemicals • environmental requirements, including procedures for trapping, storing and disposing of resins, chemicals and waste materials produced during fabrication process.
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Unit Mapping Information

Equivalent to AURVTS3004 Repair fibreglass and composite material components

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for AURVTS004 Repair vehicle composite material components

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Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standard defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- repair composite components of two different vehicles, including a repair to:
 - 50 mm diameter hole
 - 100 mm split.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS), and occupational health and safety (OHS) requirements relating to repairing vehicle composite material components, including procedures for:
 - selecting and using personal protective equipment (PPE)
 - using tools and equipment
 - satisfying ventilation requirements for work area
 - using safety data sheets (SDS) for composite materials
 - handling and storing hazardous resins and chemicals
- environmental requirements, including procedures for trapping, storing and disposing of resins, chemicals and waste materials produced during fabrication process
- fibreglass and composite material repair procedures and techniques, including:
 - types and application of specialist composite tools and equipment
 - types and features of fibreglass and composite materials
 - use of composite moulds required for support backing during repair
 - measuring and calculation techniques
 - surface preparation for composite repairs
 - mixing and applying composite materials according to manufacturer specifications

- finishing techniques for composite surfaces
- reinforcement methods to reinstate pre-damage strength
- composite repair problems and resolution techniques
- procedures for final inspection of repaired composite component.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the vehicle components made of composite materials that they have repaired, e.g. repair orders.

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 repair workplace or simulated workplace
- workplace instructions
- PPE required to repair composite components
- SDS for composite materials
- composite materials
- two different vehicles requiring the composite component repairs specified in the performance evidence
- tools, equipment and materials appropriate for repairing vehicle composite material components.

Links

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