



Australian Government

AURVTN018 Repair and replace vehicle structural damage

Release: 1

AURVTN018 Repair and replace vehicle structural damage

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to repair the structural damage of vehicle body components using straightening and replacement techniques. It involves preparing for the task, selecting and using specialist tools and equipment, fitting, aligning and welding structural sections, finishing repairs to pre-paint condition, undertaking a final inspection of body repair work, and completing workplace processes and documentation.

It applies to those working in the automotive 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 - Body

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 and replace vehicle structural damage	1.1 Job requirements are determined from workplace instructions 1.2 Structural repair and replacement information is accessed and interpreted from original equipment manufacturer (OEM) or authorised agency's specifications 1.3 Materials for repair are selected and checked for quality

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.
	1.4 Hazards associated with the work are identified and risks are managed 1.5 Tools and equipment are selected and checked for serviceability 1.6 Work is planned to identify methods, minimise waste, and use time efficiently
2. Carry out structural straightening, realigning and welding procedures	2.1 Damaged components are removed as required, according to OEM or authorised agency's recommended procedures and equipment 2.2 Components are straightened using OEM or authorised agency's approved equipment and procedures 2.3 Repaired or replacement components are fitted and aligned, and measurements are checked against OEM or authorised agency's specifications 2.4 Repaired or replaced components are welded according to OEM or authorised agency's specifications, methods and equipment, and safety and environmental requirements 2.5 Assistance is sought from authorised personnel where straightening, realigning and welding of components disturb vehicle trim or electrical, mechanical or air conditioning systems
3. Complete work processes	3.1 Final inspection is made to ensure work meets workplace expectations and manufacturer specifications, and components are presented ready for painting 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.

Skills	Description
Writing skills to:	legibly and accurately fill out workplace documentation.
Oral communication skills to:	- clarify instructions and procedures - clearly report issues and non-conformance against specifications and job outcomes.
Numeracy skills to:	- use basic mathematical operations, including addition and subtraction, to calculate repair tolerances - set welding equipment gas pressures.
Planning and organising skills to:	- prepare and lay out work area, equipment and materials - plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Problem solving skills to:	refer problems outside area of responsibility to appropriate person.
Technology skills to:	use specialist repair tools and 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>Structural repair</i> must include at least two of the following:	- body chassis rails and skirts - front or rear chassis rails - boot floors - upper skirt rail - inner or outer wheel arches - turrets - front and rear hinge pillars - inner and outer sill and pillar panels.
<i>Tools and equipment</i> must include:	- personal protective equipment (PPE) - hand and power tools and equipment - hydraulic or pneumatic push/pull equipment - OEM or authorised agency approved metal inert gas (MIG) and spot welding equipment - OEM or authorised agency approved measuring equipment - underbody jiggling systems.
<i>Safety and environmental</i>	work health and safety (WHS) and occupational health and safety

requirements must include:	(OHS) requirements, including procedures for: • selecting and using PPE • manually handling vehicle body components • using tools and equipment • environmental requirements, including procedures for trapping, storing and disposing of waste materials.
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Unit Mapping Information

Equivalent to AURVTN3018 Repair and replace structural damage by welding

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 AURVTN018 Repair and replace vehicle structural damage

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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 and replace structural body components on two different vehicles, in which each repair must include two of the following components:
 - body chassis rails and skirts
 - front or rear chassis rails
 - boot floors
 - upper skirt rail
 - inner or outer wheel arches
 - turrets
 - front and rear hinge pillars
 - inner and outer sill and pillar panels.

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 and replacing vehicle structural damage, including procedures for:
 - selecting and using personal protective equipment (PPE)
 - manually handling vehicle body components
 - using tools and equipment
- environmental requirements, including procedures for trapping, storing and disposing of waste materials
- different types of equipment and their use, including:
 - hydraulic and pneumatic straightening equipment

- approved metal inert gas (MIG) and spot welding equipment
- recommended measuring equipment
- location and key features of original equipment manufacturer (OEM) or authorised agency approved repair instructions, specifications and quality standards
- structural repair methods and techniques, including:
 - straightening and realigning
 - body panel measuring
 - panel replacement
- procedures for protecting vehicle and components when repairing or replacing structural body damage
- procedures for final inspection of completed structural body component repairs.

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 vehicles that they have structurally repaired and welded, 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
- approved repair procedures and specifications of OEM or authorised agency
- two different damaged vehicles with components specified in the performance evidence requiring structural repairs
- tools, equipment and materials appropriate for repairing and replacing structurally damaged panels on vehicles, including:
 - PPE required to repair and weld structurally damaged sections
 - recommended measuring equipment
 - materials required to repair and replace structurally damaged panels
 - hydraulic and pneumatic straightening equipment
 - approved MIG and spot welding equipment.

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