



Australian Government

AURTTC002 Repair radiators

Release: 1

AURTTC002 Repair radiators

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to repair radiators. It involves preparing for the task, cleaning, inspecting, repairing and performing post-repair testing on radiators, and completing workplace processes and documentation.

It applies to those working in the automotive service and repair industry. The radiators include those in vehicles from all sectors of the industry.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Competency Field

Mechanical Miscellaneous

Unit Sector

Technical - Cooling Systems

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 undertake radiator repairs	1.1 Job requirements are determined from workplace instructions 1.2 Information, procedures and methods are sourced and analysed 1.3 Hazards associated with the work are identified and risks are managed 1.4 Required tools for radiator repair are selected, checked and prepared for serviceability

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.
	1.5 Materials required for radiator repair are checked and prepared
2. Carry out repair operations	2.1 Radiator is dismantled as required according to manufacturer specifications, workplace procedures, and <i>safety and environmental requirements</i> 2.2 Radiator is cleaned, inspected, measured and tested according to manufacturer specifications, workplace procedures and safety requirements 2.3 Radiator is evaluated and repair requirements are determined and reported according to workplace procedures 2.4 Components are repaired, replaced and adjusted according to manufacturer specifications, workplace procedures and safety requirements
3. Complete work processes	3.1 Final inspection is made to ensure work is to workplace expectations and radiator is presented ready for use or stored according to workplace procedures 3.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 3.3 Tools and equipment are checked 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 appropriate sources of information efficiently.
Reading skills to:	- interpret safe operating procedures from signs and workplace and manufacturer literature for radiator testing, including for dismantling and assembling equipment - interpret information from workplace and manufacturer literature when seeking radiator specifications and repair procedures.
Writing skills to:	legibly and accurately fill out workplace documentation when reporting findings, making repair recommendations, and

Skills	Description
	recording parts and material used.
Oral communication skills to:	clarify instructions, report diagnostic findings, and make repair recommendations.
Numeracy skills to:	- understand and communicate radiator dimensions in metric and imperial units of measurement - measure radiator components and use basic mathematical operations, including addition and subtraction, to calculate distances, tolerances and deviations from manufacturer specifications.
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 measuring equipment, such as tape measures, rulers and vernier calipers - use soldering 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>Safety and environmental requirements</i> must include:	- work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for: - using heating and welding equipment - working with corrosive cleaning agents - environmental requirements, including procedures for trapping, storing and disposing of coolant released from radiators.
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Unit Mapping Information

Equivalent to AURTTC2002 Carry out radiator repairs

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 AURTTC002 Repair radiators

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Performance Evidence

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

- repair three different radiators, in which the work must involve the following materials:
 - aluminium
 - copper
 - plastic.

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 radiators, including procedures for:
 - using heating and welding equipment
 - working with corrosive cleaning agents
- environmental requirements, including procedures for trapping, storing and disposing of coolant released from radiators
- application, purpose and operation of radiators, including:
 - aluminium, copper and plastic radiators
 - cooling system, heater core and intercoolers
- dismantling procedures for aluminium, copper and plastic radiators
- cleaning, inspecting and testing procedures for aluminium, copper and plastic radiators, including:
 - visual inspection
 - pressure testing
 - tank testing
- repair procedures for aluminium, copper and plastic radiators, including soldering

- post-repair procedures for radiators, including pressure testing.

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 radiators 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
- three different radiators made of the materials specified in the performance evidence and requiring repair
- tools, equipment and materials appropriate for repairing radiators.

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