



Australian Government

AURTTW002 Set, operate and monitor specialist reconditioning machines

Release: 1

AURTTW002 Set, operate and monitor specialist reconditioning machines

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to set, operate and monitor specialist machines used in reconditioning engine or vehicle components. It involves preparing for the task, setting up, operating and monitoring specialist machines, and completing workplace processes and documentation.

It applies to those working in the automotive service and repair industry. This unit does not cover crankshaft or camshaft grinding.

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

Competency Field

Mechanical Miscellaneous

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. Prepare for work	1.1 Job requirements are determined from workplace instructions 1.2 Machine information is sourced, procedures and methods are analysed, and tools required for the machining process are

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	selected 1.3 Tools and measuring equipment are selected and checked for serviceability 1.4 Hazards associated with the work are identified and risks are managed 1.5 Technical and calibration requirements for machining are determined and support equipment is identified and prepared 1.6 Components are measured and required repair action is determined
2. Set machine	2.1 Machine is set up according to manufacturer specifications and workplace procedures, and without causing damage to any component or system 2.2 Component is positioned and clamped according to manufacturer specifications and workplace procedures 2.3 Machine is adjusted to meet operational requirements and specifications using appropriate measuring equipment and according to manufacturer specifications and workplace procedures 2.4 Tooling and accessories for the job are selected, and worn or damaged tooling is identified and changed or sharpened, according to manufacturer specifications and workplace procedures
3. Operate and monitor machine	3.1 Machine is operated according to workplace procedures and safety requirements, following machinery safe operating procedures and without causing damage to any component or system 3.2 Components are measured to ensure compliance with specifications 3.3 Sharpness of tooling is monitored and tooling is sharpened or replaced to meet requirements 3.4 Finished product is checked for alignment, tolerance and finish according to specifications and workplace procedures
4.1 Complete work processes	4.1 Final inspection is made to ensure finished work complies with workplace requirements 4.2 Bright surfaces are treated with rust prevention solution and component is prepared for further process or storage according to workplace procedures 4.3 Workplace documentation is processed according to workplace

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	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 quickly and efficiently.
Reading skills to:	interpret machinery safe operating procedures from workshop literature and signs.
Writing skills to:	legibly and accurately fill out workplace documentation when recording parts and material used.
Numeracy skills to:	- interpret numerical information in manufacturer specifications, workshop literature, and machinery dials, gauges and computer readouts - use basic mathematical operations, including addition and subtraction, to: - convert metric dimensions to imperial, and imperial dimensions to metric - use metric and imperial precision measuring equipment - calculate tolerances and clearances, and deviations from manufacturer specifications.
Planning and organising skills to:	- prepare work area and machines for operations - select best tooling option for the work and sequence procedure to reduce time and material wastage.

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 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), including: • eye, hand and feet protection • protective clothing • operational risk assessment and treatments associated with: • electrical safety of machinery • machinery movement and operation.
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Unit Mapping Information

Equivalent to AURTTW3002 Set, operate and monitor specialist machines

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 AURTTW002 Set, operate and monitor specialist reconditioning machines

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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:

- set up, operate and monitor machine operations for three tasks, including:
 - one precision grinding operation
 - one milling or boring operation.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to setting up, operating and monitoring specialist machinery, including:
 - procedures for selecting and using personal protective equipment (PPE), including:
 - eye, hand and feet protection
 - protective clothing
 - operational risk assessment and treatments associated with:
 - electrical safety of machinery
 - machinery movement and operation
- basic machining procedures for commonly used specialist reconditioning machines, including:
 - sharpening and shaping tools
 - identifying worn and damaged cutting tools
 - correctly mounting and positioning cutting tools
 - setting machining parameters to achieve job requirements and maximise tool life, including speeds and feeds
 - types and application of coolants and lubricants

- measuring to specified tolerances and dimensions
- type, characteristics, uses and limitations of commonly used specialist reconditioning machines
- techniques for reading and interpreting technical information, including technical drawings.

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 specialist machines that they have set, operated and monitored, 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 detailing work requirements, including work specifications
- specialist reconditioning machines specified in the performance evidence
- precision measuring equipment, including micrometers
- material relevant to carrying out machining operations.

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