



Australian Government

AURTTW3002 Set, operate and monitor specialist machines

Release 1

AURTTW3002 Set, operate and monitor specialist machines

Modification History

Release	Comment
Release 1	Replaces AURT334972A Set, operate and monitor specialist machines Unit code updated to meet policy requirements Reference to OHS legislation replaced with new WHS legislation Licensing statement added to unit descriptor

Unit Descriptor

Unit descriptor	This unit covers the competence to set, operate and monitor specialist machines used in reconditioning engine and/or vehicle components. Licensing, legislative, regulatory or certification requirements may apply to this unit in some jurisdictions. Users are advised to check with the relevant regulatory authority.
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Application of the Unit

Application of the unit	This unit does not cover crankshaft and camshaft grinding (see AURTTM3007 Carry out grinding operations). The unit includes identification and confirmation of work requirement, preparation for work, setting the machine, operating and monitoring machine to produce required result and completion of work finalisation processes, including clean-up and documentation. This unit of competence applies to engine and/or vehicle component reconditioning. Work requires individuals to demonstrate judgement and problem-solving skills in managing work activities and contributing to a productive team environment.
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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 performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and 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. Prepare for operations	1.1.Nature and scope of the work requirements are identified and confirmed 1.2.WHS requirements, including any individual State/Territory regulatory requirements and personal protection needs are observed throughout the work 1.3.Procedures and information such as workshop manuals, specifications and tooling are sourced 1.4.Method options are analysed and those most appropriate to the circumstances are selected and prepared 1.5.Technical and/or calibration requirements for machining are sourced and support equipment is identified and prepared
2. Set machine	2.1.Information is accessed and interpreted from manufacturer/component supplier specifications 2.2.Components are measured and repair action determined 2.3.Machine is set in accordance with defined procedures 2.4.Machines are set without causing damage to any component or system 2.5.Component is positioned and clamped 2.6.Machine is adjusted to meet operational requirements and specifications using appropriate measuring equipment 2.7.Tooling and accessories are selected 2.8.Worn or damaged tooling is identified and changed or sharpened 2.9.Setting activities are carried out according to industry regulations/guidelines, WHS legislation and enterprise procedures/policies
3. Operate and monitor machine	3.1.Information is accessed and interpreted from manufacturer/component supplier specifications 3.2.Machine is operated and monitored without causing damage to any component or system 3.3.Machine is operated in accordance with enterprise procedures 3.4.Components are checked with instruments to ensure compliance to specifications 3.5.Sharpness of tooling is monitored and tooling is

ELEMENT	PERFORMANCE CRITERIA
	sharpened or replaced to meet requirements 3.6.Finished product is checked for alignment, tolerance and finish 3.7.Machining operations are carried out according to industry regulations/guidelines, WHS legislation and enterprise procedures/policies
4. Prepare component for delivery to customer/storage	4.1.Component is finalised and prepared for delivery in accordance with workplace requirements 4.2.Job card is processed in accordance with workplace procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- apply research and interpretive skills sufficient to locate, interpret and apply manufacturer/component supplier procedures, workplace policies and procedures
- apply analytical skills required for identification and analysis of technical information
- apply plain English literacy and communication skills in relation to dealing with customers and team members
- apply questioning and active listening skills, e.g. when obtaining information from customers
- apply oral communication skills sufficient to convey information and concepts to customers
- apply planning and organising skills to work activities, including, making good use of time and resources, sorting out priorities and monitoring own performance
- interact effectively with other persons both on a one-to-one basis and in groups, including understanding and responding to the needs of a customer and working effectively as a member of a team to achieve a shared goal
- establish safe and effective work processes which anticipate and/or resolve problems and downtime, to systematically develop solutions to avoid or minimise reworking and avoid wastage
- use mathematical ideas and techniques to calculate time, assess tolerances, apply measurements, calculate material requirements and establish quality checks
- use workplace technology related to setting, operating and monitoring specialist machines, including the use of specialist tooling and equipment, measuring equipment, computerised technology, and of communication devices and the reporting/documenting of results

Required knowledge

A working knowledge of:

- WHS regulations/requirements, equipment, material and personal safety requirements
- the type, characteristics, uses and limitations of commonly used specialist machines
- techniques for reading and interpreting technical information, including technical drawings
- equipment safety requirements
- machining methods
- Industry codes of practice, including Australian Standards
- tool sharpening methods

REQUIRED SKILLS AND KNOWLEDGE

- cleaning/lubricating agents
- manual handling techniques
- measuring techniques
- enterprise quality procedures
- work organisation and planning processes

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence is fully observed and there is ability to transfer competence to changing circumstances and to respond to unusual situations in the critical aspects of:

- observing safety procedures and requirements
- communicating effectively with others involved in or affected by the work
- selecting methods and techniques which are appropriate to the circumstances
- completing preparatory activity in a systematic manner
- machining of components without damage to tooling, equipment and injury to persons
- setting up, operating and monitoring machine operations for three tasks including, at a minimum:
 - one precision grinding operation, and
 - one milling or boring operation
- machining of components to specified tolerances and finishes following enterprise procedures
- completing machining of components within workplace timeframe
- presentation of components to customer in compliance with workplace requirements

Context of, and specific resources for assessment

Application of competence is to be assessed in the workplace or simulated worksite

Assessment is to occur using standard and authorised work practices, safety requirements and environmental constraints

Assessment is to comply with regulatory requirements, including Australian Standards

The following resources should be made available:

- workplace location or simulated workplace
- material relevant to setting, operating and monitoring specialist machines
- equipment, hand and power tooling appropriate to setting, operating and monitoring specialist machines

EVIDENCE GUIDE	
	• activities covering mandatory task requirements • specifications and work instructions
Method of assessment	Assessment must satisfy the endorsed assessment guidelines of the automotive industry's RS&R Training Package Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of key competencies Assessment may be applied under project related conditions and require evidence of process Assessment must confirm a reasonable inference that competence is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying quality circumstances. Evidence of performance may be provided by customers, team leaders/members or other persons subject to agreed authentication arrangements Competence in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role
Guidance information for assessment	

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, if used 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.

RANGE STATEMENT	
Tooling and specialist machines	Tooling and specialist machines may include measuring equipment, safety equipment, hand tooling, power/air tooling, lathes, milling machines, line borers, pin fitting machines, precision grinders, lifting and cleaning equipment
Methods	Methods are to include machine operation, measuring, machine/component set-up, tool sharpening and replacement
WHS	WHS requirements in accordance with legislation/regulations/codes of practice and enterprise safety policies and procedures. This may include protective clothing and equipment, use of tooling and equipment, workplace environment and safety, handling of material, use of fire fighting equipment, enterprise first aid, hazard control and hazardous materials and substances
Personal protective equipment	Personal protective equipment is to include that prescribed under legislation/regulation/codes of practice and workplace policies and practices
Safe operating procedures	Safe operating procedures are to include, but are not limited to operational risk assessment and treatments associated with vehicular movement, toxic substances, electrical safety, machinery movement and operation, manual and mechanical lifting and shifting, working in proximity to others and worksite visitors
Emergency procedures	Emergency procedures related to this unit are to include, but are not limited to emergency shutdown and stopping of equipment, extinguishing fires, enterprise first aid requirements and worksite evacuation
Environmental requirements	Environmental requirements are to include, but are not limited to waste management, noise, dust and clean-up management
Quality requirements	Quality requirements are to include, but are not limited to regulations, including Australian Standards, company quality policy and standards and enterprise operations and procedures

RANGE STATEMENT	
Statutory/regulatory authorities	Statutory/regulatory authorities may include Federal, State/Territory and local authorities administering acts, regulations and codes of practice
Tooling and equipment	Tooling and equipment may include measuring equipment, safety equipment, hand tooling, power/air tooling, lathes, milling machines, line borers, pin fitting machines, precision grinders, and lifting and cleaning equipment
Material	Material may include lubricant, machine parts and cleaning materials
Communications	Communications are to include, but are not limited to verbal and visual instructions and fault reporting and may include worksite specific instructions, written instructions, plans or instructions related to job/task, telephones and pagers
Information/documents	Sources of information/documents may include: • verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, memos, material safety data sheets, diagrams or sketches • safe work procedures related to the setting, monitoring and operating of specialist machines • regulatory/legislative requirements pertaining to automotive industry, including Australian Design Rules • engineer's design specifications and instructions • organisation work specifications and requirements • instructions issued by authorised enterprise or external persons • Australian Standards

Unit Sector(s)

Unit sector	Mechanical Miscellaneous
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Co-requisite units

Not applicable.

Competency field

Competency field	Technical - Welding, Grinding, Machining and Soldering
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