



Australian Government

AURTTA2005 Select and use bearings, seals, gaskets, sealants and adhesives

Release 1

AURTTA2005 Select and use bearings, seals, gaskets, sealants and adhesives

Modification History

Release	Comment
Release 1	<p>Replaces AURT200368A Select and use bearings, seals, gaskets, sealants and adhesives</p> <p>Unit code updated to meet policy requirements</p> <p>Reference to OHS legislation replaced with new WHS legislation</p> <p>Licensing statement added to unit descriptor</p>

Unit Descriptor

Unit descriptor	<p>This unit covers the competence required to carry out the selection and use of bearings, seals, gaskets, sealants and adhesives relevant to the vehicle industry.</p> <p>Licensing, legislative, regulatory or certification requirements may apply to this unit in some jurisdictions. Users are advised to check with the relevant regulatory authority.</p>
------------------------	---

Application of the Unit

Application of the unit	<p>The unit includes identification and confirmation of work requirement, preparation for work, installation of bearings, seals, gaskets, use of sealants and adhesives and completion of work finalisation processes, including documentation.</p> <p>Work requires individuals to demonstrate discretion, judgement and problem-solving skills in managing own work activities and contributing to a productive team environment.</p>
--------------------------------	---

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

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.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare to select and use bearings, seals, gaskets, sealants and adhesives	<p>1.1.Nature and scope of work requirements are identified and confirmed</p> <p>1.2.WHS requirements, including individual State/Territory regulatory requirements and personal protection needs are observed throughout the work</p> <p>1.3.Procedures and information such as workshop manuals and specifications, and tooling required, are sourced</p> <p>1.4.Method options are analysed and those most appropriate to the circumstances are selected and prepared</p> <p>1.5.Technical requirements for testing and installation are sourced and support equipment is identified and prepared</p> <p>1.6.Warnings in relation to working with sealants and adhesives are observed</p>
2. Select and use sealants	<p>2.1.WHS requirements, including individual State/Territory regulatory requirements and personal protection needs are observed throughout the work</p> <p>2.2.Sealants and adhesives selected are those most appropriate for the work requirement</p> <p>2.3.Sealants and adhesives are used in accordance with manufacturer/component supplier instructions</p> <p>2.4.Sealants and adhesives are stored in accordance with manufacturer/component supplier instructions</p>
3. Prepare to install bearings, seals and gaskets	<p>3.1.WHS requirements, including individual State/Territory regulatory requirements and personal protection needs are observed throughout the work</p> <p>3.2.Procedures and information required are identified and sourced</p> <p>3.3.Technical and tool requirements for installation are identified and support equipment is identified and prepared</p>
4. Carry out installation of bearings, seals and gaskets	<p>4.1.Methods for the installation are implemented in accordance with workplace procedures and manufacturer/ component supplier specifications</p> <p>4.2.Adjustments made during the service and/or repair are in accordance with manufacturer/component supplier specifications</p>
5. Prepare vehicle/	5.1.Selection and installation documentation is

ELEMENT	PERFORMANCE CRITERIA
component for use or storage	completed 5.2.Final inspection is made to ensure protective guards, safety features and cowlings are in place 5.3.Final inspection is made to ensure work is to workplace expectations 5.4.Equipment is cleaned for use or storage to workplace expectations 5.5.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 for example when obtaining information from customers
- apply oral communication skills sufficient to convey information and concepts to customers
- apply planning and organising skills to own work activities, including making good use of time and resources, sorting out priorities and monitoring one's 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
- use mathematical ideas and techniques to correctly calculate time, assess tolerances, apply accurate measurements, calculate material requirements and establish quality checks
- 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 workplace technology related to the selection and use of bearings, seals, gaskets, sealants and adhesives, including the use of measuring equipment, specialist tooling and equipment, and communication devices and the reporting/documenting of results

Required knowledge

A working knowledge of:

- WHS and environmental regulations/requirements, equipment, material and personal safety requirements
- dangers of working with sealants and adhesives
- operating principles of bearings, seals, gaskets and their relationship to other components
- types, characteristics, uses and limitations of sealants and adhesives
- types and layout of service/repair manuals (hard copy and electronic)
- bearings, seals and gaskets installation procedures

REQUIRED SKILLS AND KNOWLEDGE

- sealant and adhesives application 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 in this unit signifies ability to transfer competence to changing circumstances and to respond to unusual circumstances 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 appropriate to the circumstances
- completing preparatory activity in a systematic manner
- selecting and installing the following bearings to workplace and manufacturer/component supplier requirements:
 - plain
 - anti-friction
 - adjusting/pre-loading taper roller bearings
- selecting and using a minimum of three different types of lip seals and 'O' rings to workplace and manufacturer/component supplier requirements
- selecting and applying two different types of gaskets to manufacturer/component supplier requirements
- selecting and applying hardening and non-hardening sealants to manufacturer/component supplier requirements
- selecting and applying a polymer (silicone) adhesives to manufacturer/component supplier requirements
- vehicle/component is presented 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

EVIDENCE GUIDE

	<p>The following resources should be made available:</p> <ul style="list-style-type: none"> • workplace location or simulated workplace • material relevant to the installation of bearings, seals and gaskets • material relevant to the selection and use of sealants and adhesives • equipment, hand and power tooling appropriate to installation of bearings, seals and gaskets • activities covering mandatory task requirements • specifications and work instructions
Method of assessment	<p>Assessment must satisfy the endorsed assessment guidelines of the automotive industry's RS&R Training Package</p> <p>Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge</p> <p>Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of key competencies</p> <p>Assessment may be applied under project related conditions and require evidence of process</p> <p>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</p> <p>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</p> <p>Competence in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role</p>
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.

Bearings	Bearings are to include plain (bushes and bearing inserts) and anti-friction (ball and roller)
Seals	Seals are to include lip, face and 'O' ring (dynamic and static)
Gaskets	Gaskets are to include special papers, cork, and composite material types used for cylinder head (heat and pressure), cooling system and transmission system
Sealants	Sealants are to include hardening and non-hardening types which may be used with another seal (e.g. special papers) or as the only seal
Adhesives	Adhesives are to include polymers (silicone) which may be used for glass (windcreens) engine and transmission components
WHS	WHS requirements are to be 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/regulations/codes of practice and workplace policies and practices
Safe operating procedures	Safe operating procedures are to include, but are not limited to the conduct of operational risk assessment and treatments associated with vehicular movement, toxic substances, electrical safety, machinery movement and operation,

RANGE STATEMENT	
	manual and mechanical lifting and shifting, working in proximity to others and site 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 site 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, internal company quality policy and standards and enterprise operations and procedures
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 hand tooling, meters, gauges, and load testing devices
Materials	Materials may include bearings, seals, gaskets, sealants, adhesives and cleaning materials
Communications	Communications are to include but are not limited to verbal and visual instructions and fault reporting and may include site specific instructions, written instructions, plans or instructions related to job/task, telephones and pagers
Information	<p>Sources of information/documents may include:</p> <ul style="list-style-type: none"> • 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 selection and use of bearings, seals, gaskets, sealants and adhesives • regulatory/legislative requirements pertaining to the automotive industry, including

RANGE STATEMENT

	<ul style="list-style-type: none">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
--------------------	--------------------------

Co-requisite units

Not applicable.

Competency field

Competency field	Technical
-------------------------	-----------