



Australian Government

Department of Education, Employment and Workplace Relations

AURT225156A Read and interpret engineering drawings

Release: 1

AURT225156A Read and interpret engineering drawings

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the competence to read and interpret engineering drawings applicable to an automotive environment.
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Application of the Unit

Application of the unit	This unit covers reading and interpretation of engineering drawings applicable to manufacturing or modification of components in an automotive environment. Work requires individuals to demonstrate discretion, judgement and problem-solving skills in managing own work activities and contributing to a productive team environment. Work is carried out in accordance with award provisions.
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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 work	1.1. Work instructions are used to determine job requirements 1.2. Job specifications are read and interpreted 1.3. Product/system/component/item to be manufactured/modified is identified 1.4. Engineering drawings are selected relevant to information required 1.5. OH&S requirements, including personal protection needs observed throughout the work 1.6. Correct equipment is identified and checked for safe use
2. Read and interpret engineering drawings	2.1. Symbols, codes, legends and diagrammatic representations are correctly identified 2.2. Material specifications/finish and dimensions/tolerances are identified 2.3. Product/system/component/item represented by the drawing is correctly identified
3. Clean up work area and maintain equipment	3.1. Equipment and work area are cleaned and inspected for serviceable condition in accordance with workplace procedures 3.2. Unserviceable equipment is tagged and faults identified in accordance with workplace procedures 3.3. Operator maintenance is completed in accordance with manufacturer/component supplier specifications and site procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- collect, organise and understand information related to work orders, plans and safety procedures for viewing engineering drawings
- communicate ideas and information to enable confirmation of work requirements and specifications, coordination of work with site supervisor, other workers and customers, and the reporting of work outcomes and problems

REQUIRED SKILLS AND KNOWLEDGE

- plan and organise activities, including the preparation and layout of the worksite and obtaining of equipment and drawing versions to avoid backtracking, workflow interruptions or time wastage
- work with others and in a team by recognising dependencies and using cooperative approaches to optimise workflow and productivity
- use mathematical ideas and techniques to correctly interpret drawing specifications
- use pre-checking and inspection techniques to anticipate planning and scheduling problems and avoid wastage of time
- use workplace technology related to the reading and interpretation of engineering drawings, including the use of specialist tooling, measuring equipment, computerised technology and communication devices and the reporting/documenting of results

Required knowledge

A working knowledge of:

- OH&S and environmental regulations/requirements, equipment, material and personal safety requirements
- common automotive terminology, symbols, codes, legends and diagrammatic representations
- ISO standards and/or Australian Design Rules and equipment safety requirements
- design theory and its application to the workplace
- engineering drawing procedures and interpretive techniques
- site reporting procedures
- work organisation and planning processes
- enterprise quality 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
- reading and interpreting a range of engineering drawings covering both component manufacturing and modification

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 the reading and interpretation of engineering drawings
- equipment, hand and power tooling appropriate to the reading and interpretation of engineering drawings
- 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

EVIDENCE GUIDE	
	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.	
Methods of identification	Methods are to include identification of symbols, codes, legends and diagrammatic representations
Interpretation	Interpretation of manufacture/modification specifications
OH&S	OH&S 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, workplace environment and safety and enterprise

RANGE STATEMENT	
	first aid
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 site safety, working in proximity to others and site visitors
Emergency procedures	Emergency procedures related to this unit are to include, but are not limited to enterprise first aid requirements and site evacuation
Environmental requirements	Environmental requirements are to include but are not limited to waste management 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
Resources	Resources may include manual and electronic viewing aids
Communications	Communications are to include, but are not limited to verbal and visual instructions and may include site specific instructions, written instructions, plans or instructions related to job/task, telephones and pagers
Information/documents	Sources of information/documents may include: • schedules/plans/specifications, memos, material safety data sheets, diagrams or sketches • regulatory/legislative requirements pertaining to the automotive industry, including

RANGE STATEMENT

	Australian Design Rules • organisation work specifications and requirements • instructions issued by authorised enterprise or external persons • Australian Standards
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Unit Sector(s)

Unit sector	Technical
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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