



Australian Government

Department of Education, Employment and Workplace Relations

AURT325149A Prepare engineering drawings

Release: 1

AURT325149A Prepare engineering drawings

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the competence required to prepare engineering drawings applicable to an automotive environment.
------------------------	---

Application of the Unit

Application of the unit	<p>This unit covers the preparation of engineering drawings applicable to manufacturing or modification of products in an automotive environment.</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> <p>Work is carried out in accordance with award provisions.</p>
--------------------------------	---

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

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 for work	1.1. Work instructions are used to determine the job requirements, including job sheets, preparation procedures and manufacturer/component supplier specifications 1.2. Job specifications are read and interpreted 1.3. OH&S requirements, including personal protection needs, are observed throughout the work 1.4. Product/system/component/item to be drawn is identified 1.5. Correct instruments and equipment are identified and checked for safe use
2. Prepare engineering drawing	2.1. Correct information is accessed and interpreted from manufacturer/component supplier specifications 2.2. Drawing instruments, equipment and materials are selected to match the complexity of the requirement 2.3. Symbols, codes, legends and diagrammatic representations are used 2.4. Correct dimensions, tolerances and material specifications are used 2.5. Engineering drawings are completed and checked for accuracy 2.6. Activities are carried out according to industry regulations/guidelines, OH&S legislation, legislation and enterprise procedures/policies
3. Clean up work area and maintain equipment	3.1. Waste and scrap is removed following workplace procedure 3.2. Equipment and work area are cleaned and inspected for serviceable condition in accordance with workplace procedures 3.3. Unserviceable equipment is tagged and faults identified in accordance with workplace procedures 3.4. Instruments are maintained and stored in accordance with workplace procedures

Required Skills and Knowledge

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 preparing 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 documenting of work outcomes and problems
- plan and organise activities, including preparation and layout of worksite and obtaining of equipment, materials and drawing instruments 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 represent unit/object/subject dimensions and specifications
- use pre-checking and inspection techniques to anticipate planning and scheduling problems and avoid wastage of time
- use workplace technology related to the preparation of engineering drawings, including the use of specialist tooling, measuring equipment, computerised technology and communication devices and the documenting/recording of results

Required knowledge

A working knowledge of:

- OH&S regulations/requirements, equipment, material and personal safety requirements
- techniques for interpretation of manufacturing/ modification specifications
- equipment operating procedures
- ISO standards
- technical information, including symbols, codes, legends and diagrammatic representations
- computer-aided design techniques and applications
- engineering drawing procedures
- work organisation and planning processes
- enterprise quality processes

Evidence Guide

EVIDENCE GUIDE	
<p>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.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>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:</p> <ul style="list-style-type: none"> • 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 • preparing engineering drawings covering manufacture or modification of a minimum of three different products both hand and computer-aided processes • preparing and presenting engineering drawings to customer and enterprise requirements
Context of, and specific resources for assessment	<p>Application of competence is to be assessed in the workplace or simulated worksite</p> <p>Assessment is to occur using standard and authorised work practices, safety requirements and environmental constraints</p> <p>Assessment is to comply with regulatory requirements, including Australian Standards</p> <p>The following resources should be made available:</p> <ul style="list-style-type: none"> • workplace location or simulated workplace • material relevant to the preparation of engineering drawings • equipment, hand and power tooling appropriate to the preparation of engineering drawings • 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>

EVIDENCE GUIDE	
	<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	
<p>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.</p>	
Methods	<p>Methods are to include:</p> <ul style="list-style-type: none"> • hand and instrument drawing • computer-aided drawing
OH&S	<p>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</p>

RANGE STATEMENT	
	first aid
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 site safety, working in proximity to others and site visitors
Emergency procedures	Emergency procedures related to this unit are to include but may not be 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 are to include computers, CAD software, drawing boards, drawing machines, drawing paper and rulers, T-squares, measuring equipment, pens and pencils
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: <ul style="list-style-type: none"> • schedules/plans/specifications, memos, material safety data sheets, diagrams or sketches • regulatory/legislative requirements pertaining

RANGE STATEMENT

	<p>to automotive industry, including Australian Design Rules</p> <ul style="list-style-type: none"> • organisation work specifications and requirements • instructions issued by authorised enterprise or external persons • Australian Standards
--	--

Unit Sector(s)

Unit sector	Technical
--------------------	-----------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--