



Australian Government

Department of Education, Employment and Workplace Relations

AURV331423DA Fabricate and install frame structures

Release: 1

AURV331423DA Fabricate and install frame structures

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the competence required to fabricate (measure, select material and attachments, cut, make up/assemble and fit) and install frame structures.
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Application of the Unit

Application of the unit	<p>The unit includes identification and confirmation of work requirement, preparation for work, measuring frame requirements, selecting materials, assembling, fitting and installation of frame structure and completion of work finalisation processes, including clean-up and documentation.</p> <p>Work requires individuals to demonstrate 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>
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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 fabrication work	1.1. Information for work is accessed from manufacturer/ component supplier specifications and interpreted. 1.2. OH&S requirements, including personal protection needs, are observed throughout the work. 1.3. Materials are selected and inspected for quality. 1.4. Components, tooling and equipment for fabrication are identified, selected and prepared in accordance with worksite procedures. 1.5. Procedures are determined to minimise waste material. 1.6. Procedures are identified for maximising energy efficiency while completing the job.
2. Measure job and determine frame requirements	2.1. Information for measuring and determining frame requirements is interpreted and followed. 2.2. Measurements are accessed from manufacturer/component supplier specifications and/or from directly measured fitting requirements. 2.3. Frame dimensions are confirmed against job/customer requirements.
3. Select frame materials and attachments/joiners	3.1. Information for selection of materials and attachments/ joiners is interpreted and followed. 3.2. Materials type and size are selected according to frame dimension, in-service environment and customer requirements. 3.3. Attachment methods and materials are selected according to industry regulations/guidelines, OH&S legislation, and enterprise procedures/policies.
4. Cut materials, fit frame attachments/joiners and assemble frame	4.1. Information for cutting materials, fitting of attachments/ joiners and assembly is interpreted and followed. 4.2. Tooling and equipment are used for cutting and fitting attachments/joiners. 4.3. Cutting, attachment/joiner fitting and assembly is carried out and completed in accordance with work plan and specifications. 4.4. Component lengths, fittings and frame assembly dimensions are checked for conformity to specifications in accordance with worksite procedures.

ELEMENT	PERFORMANCE CRITERIA
	4.5. All cutting, fitting and assembly operations are carried out according to industry regulations/guidelines, OH&S legislation, and enterprise procedures/policies.
5. Fit fabricated frame structure	5.1. Fitting is completed without causing damage to equipment, component/system or machinery. 5.2. Information for fitting fabricated frame is interpreted and followed. 5.3. Frame fitting is carried out and completed in accordance with work plan and specifications. 5.4. Production is checked for conformity to specifications in accordance with worksite procedures.
6. Install and fasten frame structure	6.1. Information for installation and fastening is interpreted and followed. 6.2. Installation and fastening processes and methods are accessed from manufacturer/component supplier specifications and/or determined from existing fitting. 6.3. Installation and fastenings are checked for conformity to manufacturer/component supplier specifications and vehicle operational requirements.
7. Clean up work area and maintain equipment	7.1. Material that can be reused is collected and stored. 7.2. Waste and scrap is removed following workplace procedure. 7.3. Equipment and work area are cleaned and inspected for serviceable condition in accordance with workplace procedures. 7.4. Unserviceable equipment is tagged and faults identified in accordance with workplace procedures. 7.5. Operator maintenance is completed in accordance with manufacturer/component supplier specifications and worksite procedures. 7.6. Tooling is maintained 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 fabricating and installing frame structures
- communicate ideas and information to enable confirmation of work requirements and specifications, coordination of work with worksite supervisor, other workers and customers, and the reporting of work outcomes and problems
- plan and organise activities, including preparation and layout of worksite and obtaining of equipment and materials to avoid backtracking, workflow interruptions or 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 complete measurements and estimate material requirements for work
- 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 fabrication and installation of frame structures, including the use of measuring equipment, computerised technology and communication devices and the reporting/recording of results

Required knowledge

A working knowledge of:

- OH&S regulations/requirements and personal safety requirements
- technical information
- equipment safety requirements/operation of tube bending and wire swaging equipment
- types of frames, fittings and fasteners
- frame positioning and fixing methods and procedures
- types of frame materials and their application
- production methods and procedures, including frame design, material and hardware selection, measuring, cutting and assembly/fitting up
- enterprise quality procedures
- work organisation and planning 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 • fabricating a range of frame structures following production processes • measuring job and determining frame requirements • selecting frame materials and attachments • assembling and fitting/attaching frame • monitoring production processes, specifications and outputs • completing post-activity housekeeping.
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 • materials relevant to fabrication and installation of frame structures • equipment, hand and power tooling appropriate to fabrication and installation of frame structures • activities covering mandatory task requirements • specifications and work instructions.

EVIDENCE GUIDE	
Method of assessment	<ul style="list-style-type: none"> • 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	
<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"> • material selection, measuring, cutting,

RANGE STATEMENT	
	<p>mechanical fastening, wire swaging, shaping, bending, riveting, and fitting</p> <ul style="list-style-type: none"> dismantling, assembling, fitting, fixing.
Frame structures	Frame structures may be those in recreational equipment, marine craft, aircraft, heavy vehicles, plant and agricultural equipment.
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, use of tooling and equipment, workplace environment and safety, handling of materials, 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, internal 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 hand tooling, power tooling, air tooling, specialist tooling, rivet gun and rivets, machines, drills, cutting equipment, measuring and assembly equipment (straight edge, tape, square).
Materials	Materials may include stainless steel hardware, bow sets, fasteners, stainless steel wire and tube, and aluminium tube.
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	<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 fabrication and installation of frame structures • 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	Vehicle body
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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