

BCCCM2002B**Unit Descriptor****Use small plant and equipment**

This unit specifies the competency required to use a range of small plant and equipment commonly employed in civil construction activities and sites. It includes the minimum criteria for competency assessment.

The unit covers the selection of the most appropriate equipment, the planning and preparation for work, the conduct of checks, the use of the plant or equipment and the post operational maintenance and clean up.

Unit Sector

No sector assigned

ELEMENT**PERFORMANCE CRITERIA**

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|-----------------------------------|--|
| 1. Plan and prepare | 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the allotted task
1.2 Safety requirements are obtained from the site safety plan and organisational policies and procedures, confirmed and applied to the allotted task
1.3 Plant, tools and equipment selected to carry out tasks are consistent with the requirements of the job
1.4 Environmental protection requirements are identified from the project environmental management plan, confirmed and applied to the allotted task |
| 2. Conduct pre-operational checks | 2.1 Fuel and lubricants are selected according to manufacturers' specifications
2.2 Fuel, oil, hydraulic fluid and water levels are checked and adjusted according to manufacturers' manual
2.3 Bolts, nuts, guards and attachment couplings are secured/tightened and maintained in accordance with manufacturers' instructions
2.4 Function of controls and gauges are checked and adjusted where necessary to comply with manufacturers' manual
2.5 Standard start-up and shut down procedures are conducted according to requirements of operators' manual |
| 3. Use small plant and equipment | 3.1 Site hazards associated with small plant and equipment operations are identified and appropriate controls established in accordance with the requirements of the site safety plan
3.2 Operating techniques for small plant and equipment are identified and applied to achieve optimum output in accordance with manufactures' design specifications while maintaining specified tolerances
3.3 Machine is operated to produce results within design specifications to meet specified tolerances
3.4 Plant and equipment are safely located when not in immediate use
3.5 Responsibility of self direction to achieve finished product to job/design specifications is assumed |

- 4. Carry out operator maintenance
 - 4.1 Plant/equipment is shut down and prepared for maintenance as per manufacturers' manual and organisational requirements
 - 4.2 Inspection and fault finding are conducted in accordance with manufactures' specifications and/or organisational requirements
 - 4.3 Defective parts are removed and replaced safely and effectively according to manufacturers' manual and organisational requirements
 - 4.4 Regular programmed maintenances tasks are carried out in accordance with manufacturers' and/or organisational requirements
- 5. Clean up
 - 5.1 Work area is cleared and materials disposed of or recycled in accordance with project environmental management plan
 - 5.2 Plant, equipment and tools are cleaned, checked, maintained and stored in accordance with manufacturers' recommendations and standard work practices

KEY COMPETENCIES

These include a number of processes that are learned throughout work and life, which are required in most jobs. Some of these are covered by the national key competencies, although others may be added. The details below highlight how these competencies are to be applied in the attainment of this unit.

Application of the key competencies in this unit are to satisfy the nominated level in which:

Level 1 relates to working effectively within set conditions and processes;

Level 2 relates to the management or facilitation of conditions or processes; and

Level 3 relates to the design, development and evaluation of conditions or process.

How will the candidate apply the following key competency in this unit? The candidate will need to:

Key Competency	Example of Application	Performance Level
Communicating ideas and information	Communicate ideas and information orally and in writing in simple English to enable confirmation of work requirements, passage of information and requests to other workers during operations and the reporting and recording of work outcomes	1
Collecting analysing and organising information	Collect, organise, interpret and understand the information required for the conduct of small plant and equipment operations, including work instructions, plans/sketches/diagrams, safety instructions, signage, gauges, labels, quality assurance procedures, manufacturers' instructions, material safety data sheets and equipment instructions	1
Planning and organising activities	Conduct activities associated with the preparation of small plant and equipment operations, including the coordination and use of equipment, materials and tools to avoid backtracking and rework	1
Working with others and in teams	Work with others and in a team by recognising dependencies and using co-operative approaches to optimise satisfaction and productivity	1
Using mathematical ideas and techniques	Use mathematical ideas and techniques to correctly calculate time to complete tasks, estimate measurements, distances, calculate material requirements and establish quality checks	1
Solving problems	Establish safe and effective work processes which anticipate likely problems and blockages and systematically work around these to avoid or minimise reworking and avoid wastage	1
Using technology	Use workplace technology related to small plant and equipment operations, including the use of monitoring systems, the use of communication systems and the reporting/recording of results	1

RANGE STATEMENT

The Range Statement provides advice to interpret the scope and context of this unit of competency allowing for differences between enterprises and workplaces. It relates to the unit as a whole and facilitates holistic assessment. The following variables relate to this particular unit:

Unit scope

- Small plant and equipment are to include compressors, concrete mixers, pedestrian rollers, water pumps, brick/masonry saws, jack hammers, kanga hammers, generator sets, lighting sets, vibrating plates, plate compactors, quick cut saws, concrete vibrators, pedestrian rollers, concrete saws and generators
- Small plant and equipment may include industrial wet and dry vacuum cleaners, pallet trolleys, terrazzo grinders, hoists, brush-cutters and mowers
- Power sources may include 240 volt electricity, compressed air and petrol/diesel motors and hydraulics
- Operator maintenance is to include cleaning, authorised servicing and the monitoring, recording and reporting of faults. It may also include the conduct of authorised minor replacements

Safety (OH&S)

- OH&S requirements are to be in accordance with State or Territory legislation and regulations, organisational safety policies and procedures, and project safety plan. This may include protective clothing and equipment, use of tools and equipment, workplace environment and safety, handling of materials, use of fire fighting equipment, use of first aid equipment, hazard control and hazardous materials and substances
- Personal protective equipment is to include that prescribed under legislation, regulation and workplace policies and practices
- Safe operating procedures are to include but not be limited to recognising and preventing hazards associated with underground and overhead services, other machines, personnel restricted access barriers, traffic control, working at heights, working in proximity to others, worksite visitors and the public

Safety (OH&S) (continued)

- Hazards and risks may include but not be limited to uneven/unstable terrain, trees, fires, overhead and underground services, bridges, buildings, excavations, traffic, embankments, cuttings, structures and hazardous materials
- Emergency procedures related to equipment operation are to include but may not be limited to emergency shutdown and stopping, extinguishing equipment fires, organisational first aid requirements and evacuation

Environmental Requirements	• Environmental requirements are to include but are not limited to organisational/project environmental management plan, waste management, water quality protection, noise, vibration, dust and clean-up management
Quality Requirements	• Quality requirements may include but not be limited to dimensions, tolerances, standards of work and material standards as detailed in the project drawings, specifications and project documentation to meet client satisfaction
Statutory/Regulatory Authorities	• State/Regulatory Authorities may include Federal, State and Local Authorities
Materials	• Materials associated with the use of small plant and equipment may include but are not limited to water, clays, silts, stone, gravel, mud, rock, sand, topsoil, bituminous mixes, timber, fuels and oils, power leads, replacement parts and consumables
Communications	• Communications are to include but not be limited to verbal instructions and fault reporting and may include two way radio, hand signals, mobile phone, site specific instructions, written instructions or instructions related to job/task • On site meeting processes may include notification/scheduling (time, place, purpose), task discussions and local coordination of procedural and operational issues
Information	• Information sources may include but not be limited to verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, charts and hand drawings, memos, material safety data sheets (MSDS) and diagrams or sketches • Safe work procedures related to the operation of small plant and equipment on construction sites • Regulatory/legislative requirements pertaining to small plant and equipment operations and the environment • Manufacturers' specifications and instructions • Organisation work specifications and requirements. • Instructions issued by authorised organisational or external personnel • Relevant Australian Standards

EVIDENCE GUIDE

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competency for this unit. This is an integral part of the assessment of competency and should be read in conjunction with the Performance Criteria, the Range Statement, and the Assessment Guidelines of the Training Package.

Critical aspects of evidence required to demonstrate competency in this unit

- Location, interpretation and application of relevant information, standards and specifications
- Compliance with site safety plan, OH&S regulations and State/Territory legislation applicable to workplace operations
- Compliance with organisational policies and procedures including quality requirements
- The completion of realistic site based tasks using the mandatory small plant and equipment listed in the unit scope
- The application of emergency procedures
- The conduct of authorised operator maintenance
- Communication and working effectively and safely with others

Relationship to other units

- Pre-requisite units are:

BCCCM1001B Follow OH&S policies and procedures

Competency in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role

Specific knowledge required to achieve the performance criteria

- A knowledge of
 - Small plant and equipment types, characteristics, technical capabilities and limitations
 - Basic soil types and characteristics
 - Site and equipment safety requirements
 - Small plant and equipment operating techniques related to essential tasks
 - Processes for interpreting engineering drawings and sketches
 - Operational, maintenance and basic diagnostic procedures
 - Site isolation and traffic control responsibilities and authorities
 - Materials Safety Data Sheets and materials handling methods
 - Project quality requirements
 - Civil construction terminology
 - Processes for compaction of concrete, soils and granular materials
 - JSA's/Safe work method statement

The context of assessment

- The application of competency is to be assessed in the workplace or realistically simulated construction site
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements

Methods of assessment

- Assessment must satisfy the endorsed assessment guidelines of the Building and Construction industry's Civil Construction 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 methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge
- Assessment may be applied under project related conditions (real or simulated) and require evidence of process
- Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances
- Assessment may be in conjunction with assessment of other units of competency, including those listed above

Specific resource requirements for this unit

- The following resources should be made available:
 - workplace location or simulated workplace
 - operational small plant and equipment with appropriate support materials
 - realistic tasks covering the mandatory task requirements
 - maintenance materials appropriate to the small plant and equipment
 - specifications and work instructions