



Australian Government

CPCCE3026A Operate excavators at ground level to demolish building elements

Release 1

CPCCE3026A Operate excavators at ground level to demolish building elements

Modification History

New unit.

This version first released with CPC08 Construction, Plumbing and Services Training Package Version 9.

Unit Descriptor

This unit of competency specifies the outcomes required to operate an excavator at ground level in the demolition industry. The unit covers planning and preparing; conducting machine pre-operational checks; preparing a site for the demolition process; following demolition procedures for different building elements; selecting, removing and fitting attachments; removing demolition materials and waste; relocating excavators; and carrying out machine operator maintenance.

Application of the Unit

This unit of competency supports the role of demolition workers who demolish residential, commercial and industrial buildings and structures.

Licensing/Regulatory Information

Licensing, legislative, regulatory or certification requirements apply to demolition work in different States and Territories. Candidates are advised to consult with the relevant regulatory authorities.

Pre-Requisites

Nil

Employability Skills Information

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 required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | | |
|---|------------------------------------|---|
| 1 | Plan and prepare. | <p>1.1 <i>Compliance requirements</i> relevant to excavator operations are accessed, interpreted and applied.</p> <p>1.2 Work instructions are obtained from relevant <i>information</i>, confirmed with team members and other relevant personnel, and applied to planning and preparation.</p> <p>1.3 <i>Work health and safety (WHS) requirements</i> are identified and applied to task planning according to safety plans and policies.</p> <p>1.4 <i>Environmental requirements</i> are identified for the project according to environmental plans and regulatory obligations.</p> <p>1.5 Tools and equipment for pre-start checks and operator maintenance tasks are checked for serviceability, and faults are rectified and reported.</p> <p>1.6 Excavator pre-start, start-up, park and shut-down operational checks are conducted according to manufacturer recommendations.</p> <p>1.7 Excavator controls and functions are checked for serviceability, and faults are rectified and reported.</p> |
| 2 | Select, check and fit attachments. | <p>2.1 Excavator <i>attachments</i> are selected to carry out tasks, consistent with job requirements.</p> <p>2.2 Attachments and connections are checked for excessive</p> |

- wear, and replaced and reported as required.
- 2.3 Attachments are securely fitted according to safe work method, and applicable safety retaining device is used according to manufacturer specifications and workplace requirements.
 - 2.4 Hydraulic components are *checked* and faults are rectified or components replaced, and reported.
 - 2.5 Operation of hydraulic system is tested before applying load according to manufacturer specifications and workplace requirements.
 - 2.6 Attachment operation is tested by raising and lowering, and attachment is securely locked in position for travel according to manufacturer specifications and workplace requirements.
 - 2.7 Attachments are removed, maintained and stored according to manufacturer specifications and workplace requirements.
- 3 Prepare demolition site.
- 3.1 Requirements of site demolition plan are determined and discussed with team members according to workplace procedures.
 - 3.2 *Site inspection* of property or dilapidation survey is conducted to determine condition of work site and surrounds before work begins, and safe work method statement is amended and approved as required.
 - 3.3 Confirmation is obtained from supervisor and regulatory authorities that specified services, above and below ground, have been disconnected and any remaining live services are identified and protected.
 - 3.4 Hazardous material is identified for separate handling according to workplace requirements and instructions.
 - 3.5 Mechanical equipment and plant are positioned in operating locations and appropriate exclusion zone and traffic control are arranged.

- 4 Operate excavator for demolition process.
- 4.1 Excavator general operating techniques are identified and applied to achieve safe, effective and efficient output according to manufacturer's design specifications while achieving specified tolerances.
 - 4.2 Site hazards associated with excavator demolition operations are identified and **safe operating techniques** are followed to minimise risks.
 - 4.3 Excavator is moved safely between work locations, observing relevant codes and traffic management requirements.
 - 4.4 Control measures are implemented to manage **hazards arising from demolition process** according to the demolition plan, safe work methods and regulatory requirements.
 - 4.5 **Demolition tasks** are assessed immediately prior to starting, and safe work method statement is reviewed to incorporate management of undiscovered hazards.
 - 4.6 Excavator is operated at ground level to demolish building elements using suitable attachments according to approved demolition plan and current safe work method.
 - 4.7 **Communication** is maintained with team members, during the demolition process.
 - 4.8 **Work site conditions and progress are monitored** in consultation with team members, and work is stopped or techniques adjusted as required, according to workplace requirements.
- 5 Carry out machine operator inspection and maintenance tasks.
- 5.1 Excavator is safely parked and shut down, and attachments are removed and stored according to workplace requirements.
 - 5.2 Excavator is inspected for faults and defective parts are removed and replaced according to manufacturer specifications and workplace requirements.
 - 5.3 Regular programmed **operator maintenance tasks** are conducted according to manufacturer specifications and workplace requirements, and log sheets are completed.

- 6 Clean up.
 - 6.1 Work area is cleared and materials and waste are sorted and located for removal, as required and according to site demolition project environmental management plan.
 - 6.2 Maintenance tools and equipment are cleaned, checked, maintained and stored.

Required Skills and Knowledge

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

Required skills

- learning skills to:
 - recognise signs indicating undiscovered hazards on a demolition site, for example presence of termites
 - respond to change, such as differences in current work site environmental and sustainability requirements
- numeracy skills to:
 - check levels of lubricants in equipment
 - estimate weight of volumes of demolition debris
 - perform measurements and calculations associated with work, such as when determining load capacity of equipment
- oral communication skills to:
 - enable clear and direct communication, using questioning to identify and confirm requirements, and share information
 - report hazards on the work site, including faults in tools, attachments, equipment and materials
 - use language and concepts appropriate to cultural differences
- reading skills to:
 - interpret documentation relating to work requirements, including:
 - drawings and specifications
 - job safety analyses (JSA)
 - safe work method statements (SWMS)
 - safety data sheets (SDS)
 - understand written instructions, procedures and signage
- writing skills to complete pre-operational checklists, equipment fault forms and log sheets

Required knowledge

- general construction terminology
- hazards associated with the operation of excavators from ground level on residential, commercial and industrial demolition sites
- methods for materials storage and disposal, including environmentally friendly waste management
- method of operation and maintenance requirements of excavator and attachments

- types, characteristics, uses and limitations of excavators in the demolition industry
- workplace and equipment safety requirements

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 This unit of competency could be assessed by observation of on-site operation of an excavator and the use of different attachments to complete demolition tasks on large and complex buildings, working as part of a team.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person should demonstrate the ability to operate an excavator from ground level to complete the following mandatory demolition tasks:

- fit and secure grapples, buckets and hydraulic hammers and remove, maintain and store attachments after use
- position excavator appropriately and load a truck with building rubble using a bucket
- progressively and, with reference to the pre-planned and controlled sequencing of tasks outlined in the demolition plan, logically demolish all or part of three different types of buildings or structures including breaking up a concrete floor or structure using a hydraulic hammer attachment
- segregating building materials effectively for recycling or disposal
- a person should also demonstrate:
 - selection of appropriate sized machine and attachments
 - identification of appropriate machine (operator) protection or guarding
 - knowledge of the requirements, procedures and instructions for conducting demolition excavator operations
 - implementation of requirements, procedures and techniques for the safe, effective and efficient completion of demolition excavator operations, including:
 - working with others to undertake and complete demolition excavator operations that meet all of the required outcomes
 - consistent timely completion of demolition excavator operations that safely, effectively and efficiently meet the required outcomes.

Context of and specific resources for assessment

Assessment of this unit:

- must be in the context of the work environment
- must meet relevant compliance requirements.

Resource implications for assessment include:

- an induction procedure
- realistic tasks covering the mandatory task requirements
- relevant specifications and work instructions
- plant, tools and equipment as listed appropriate to applying safe work practices
- support materials appropriate to activity
- workplace instructions relating to safe work practices and addressing hazards and emergencies
- information relevant to each task, such as safety data sheets, work plans and approved specifications, forms and procedures manuals.

Method of assessment

Assessment for this unit must verify the practical application of the required skills and knowledge, using a combination of the following methods:

- direct observation of mandated tasks
- questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- review of relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

Guidance information for assessment

This unit could be assessed on its own or in combination with other units relevant to the job function.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

Assessment processes and techniques should, as far as is practical, take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.

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.

Compliance

- Australian standards relevant to plant operation and

requirements may include:

- demolition
- codes of practice for plant operation
- legislative and regulatory requirements for plant operation
- manufacturer guidelines and specifications
- organisational requirements and procedures
- requirements of Employment and Workplace Relations legislation
- requirements of Equal Employment Opportunity and Disability Discrimination legislation
- site requirements.

Information regarding work task instructions may include:

- advice and guidelines relating to regulatory and legislative requirements for mechanical demolition processes
- approved demolition plan
- current Australian standards relating to operating excavators to demolish building elements
- diagrams or sketches including identification of load bearing and non-load bearing elements
- instructions issued by authorised organisational or external personnel
- memos
- safe work methods statements (SWMS) relating to the conduct of mechanical demolition processes, including identification of suspended elements that may require propping
- safety data sheets
- site signage
- site traffic management plan
- verbal, written and graphical instructions, including manufacturer specifications and instructions where specified
- work bulletins
- work schedules, plans and specifications.

Work health and safety requirements must comply with state or territory legislation and project safety plan may include:

- emergency procedures, including extinguishing fires, organisational first aid requirements, and evacuation procedures
- handling activities that may require the assistance of others or the use of manual or mechanical lifting devices where size, weight or other issues, such as a disability are a factor
- hazard control
- hazardous materials and substances, including asbestos, lead-based paints, dust, pesticide residue, animal residue and the safe handling or quarantining procedures for each
- personal protective equipment (PPE) prescribed under legislation, regulations and workplace policies and practices
- safe operating procedures, including operational risk

assessment and treatments associated with:

- falling objects
- lighting
- plant movement
- power cables, including overhead service trays, cables and conduits
- restricted access barriers
- surrounding structures
- traffic control
- trip hazards
- work site visitors and the public
- working at heights
- working in confined spaces
- working in proximity to others
- traffic management, barriers and signage
- use of tools and equipment
- workplace environmental requirements.

Environmental requirements may include:

- clean-up management
- control of spills and leaks of hydraulics, oil and fuels
- dust and noise control
- sedimentation control
- vibration management
- waste management.

Attachments may include:

- buckets
- grapples
- hammers
- magnets
- pulverisers
- rippers
- rock breakers
- shears.

Checks must include for:

- bulges
- fractures
- leaks
- splits.

Site inspection may include:

- assessing condition of property and surrounds
- communicating with those who may be affected by the demolition task
- erecting scaffolding for exclusion zones and public protection, if applicable
- identifying hazardous materials

Safe operating techniques for excavators may include:

- identifying position of hoses and cables clear of hazards
- installing supports and bracing
- location of signage and barricades
- providing for site safety.
- emergency shut-down and stopping
- management of hazards and risks, including:
 - buildings
 - cuttings
 - embankments
 - excavations
 - fires
 - hazardous materials
 - overhead and underground services
 - structures
 - traffic
 - trees
 - uneven or unstable terrain
- safe parking practices ensuring:
 - access ways are clear
 - equipment or machinery is:
 - located a safe distance from excavations
 - located away from refuelling sites
 - secured from unauthorised access or movement.

Hazards arising from demolition process may include:

- dust
- fire
- fumes
- noise
- vibration.

Demolition tasks that may be completed using an excavator and attachments may include:

- controlled collapse of structures by:
 - pulling using cables
 - pushing
- demolition of:
 - buildings
 - chemical or manufacturing plants
 - chimneys
 - tanks
 - towers
- excavation of:
 - basements
 - footings

- slabs
 - loading materials
 - processing and sorting materials.
- Communication* may include the use of:
- hand signals
 - mobile equipment
 - radios.
- Monitoring of work site conditions and progress* must include:
- degraded structures
 - hazardous materials
 - live edges
 - overhead and below ground services
 - potential effect to neighbouring properties
 - potential effect to the general public
 - trenches
 - unconsolidated ground or fill materials
 - underground storage tanks.
- Operator maintenance tasks:*
- must include:
 - authorised servicing
 - cleaning
 - daily checks
 - monitoring, recording and reporting faults
 - may include:
 - authorised minor replacements
 - assisting maintenance personnel during maintenance and repair activities.

Unit Sector(s)

Demolition

Custom Content Section

Not applicable.