

# Operate material hoists (cantilever platform)

Code OHSCER237A

Workplace Health and Safety Queensland is moving to a new learning and assessment system for certificates to work in prescribed occupations. Learning and assessment will now be conducted in the Vocational Education and Training (VET) sector in which units of competency set out the knowledge and skills needed to demonstrate competent performance in a prescribed occupation.

© State of Queensland (Department of Industrial Relations) 2006

All occupational health and safety authority jurisdictions share copyright of this material, however Queensland is the lead copyright holder.



**CODE:** OHSCER237A

**TITLE:** Operate material hoists (cantilever platform)

**DESCRIPTOR:** This unit of competency covers the functions required to operate material hoists (cantilever) to meet minimum training and assessment standards for the purposes of certification. This unit has been developed in accordance with the licensing and assessment requirements of NOHSC:1006 [2001].

This unit involves assessing, securing equipment and work area and operating hoist.

Element	Performance Criteria
<b>1.0 Assess and secure equipment and work area</b>	
1.1 Conduct routine checks	<p>1.1.1 Routine pre-operational equipment <i>checks</i> are carried out in accordance with the checklist provided for the hoist.</p> <p>1.1.2 The service log book for the hoist is checked to ensure all service requirements have been met and action taken as required.</p> <p>1.1.3 Prior to operation, <i>equipment</i> and <i>site</i> area are visually checked for any evidence of damage, structural weakness or interference, and any faults reported to an authorised person for corrective action.</p>
1.2 Plan Work	<p>1.2.1 A <i>workplace</i> operations plan is developed in consultation with the relevant authorised workplace personnel. The plan takes into account job requirements, priorities, workplace rules and procedures, identified hazards and hazard control measures.</p> <p>1.2.2 <i>Site</i> hazards are identified and correct hazard control strategies developed in accordance with the appropriate Australian Standard.</p> <p>1.2.3 Plans for emergency <i>procedures</i> take into account the location of first aid and fire fighting equipment, amenities and access/egress points in the workplace.</p> <p>1.2.4 Precautions are taken to accommodate the effects of weather conditions in accordance with the appropriate Australian Standard. This includes, where necessary, deciding to postpone operations where weather conditions exceed acceptable limits.</p> <p>1.2.5 The operations plan ensures that the <i>work area</i> is correctly illuminated.</p> <p>1.2.6 The signals and signalling system to be used are confirmed with associated personnel.</p>

Element	Performance Criteria
1.3 Check controls and equipment	<p>1.3.1 The hoist is started in accordance with equipment <i>procedures</i> and checks made for any abnormal noise or movement. Any abnormal operation is reported to an authorised person for corrective action.</p> <p>1.3.2 The operating and emergency controls and safety devices are located and identified and their correct operation tested in accordance with prescribed procedures.</p> <p>1.3.3 All communication <i>equipment</i>, lighting and alarm systems are checked for correct operation.</p> <p>1.3.4 Defective controls, communication equipment, safety devices, lighting, or alarms are reported to authorised personnel for corrective action and the defects entered into the hoist's service log book.</p> <p>1.3.5 Planned <i>hazard</i> control strategies are implemented including verification of emergency procedures.</p>
1.4 Shut down hoist	<p>1.4.1 The hoist is <i>shut down</i> using the correct sequence of procedures in accordance with manufacturer's instructions.</p> <p>1.4.2 Routine post-operational equipment <i>checks</i> are carried out in accordance with the checklist provided for the hoist.</p> <p>1.4.3 The relevant motion locks and brakes are applied.</p> <p>1.4.4 All <i>equipment</i> is checked for any signs of wear or damage.</p> <p>1.4.5 All defective <i>equipment</i> is segregated and reported to an authorised person for corrective action and/or replacement.</p> <p>1.4.6 The hoist and equipment are correctly stowed and secured in accordance with manufacturer's instructions.</p>
<b>2.0 Operate hoist</b>	
2.1 Conduct trial operations	<p>2.1.1 The hoist is operated through full height/distance of travel without load. Any identified abnormal conditions are investigated and appropriate corrective action taken to either remedy the condition or report it to an authorised person.</p> <p>2.1.2 All fencing, gates, gate interlocks and travel limiting devices are checked for correct operation.</p> <p>2.1.3 Any defective <i>equipment</i> is reported to authorised personnel for corrective action and defects entered into the hoists service log book.</p>

Element	Performance Criteria
2.2 Conduct lift	<p>2.2.1 For each lift the weight of the load (including lifting gear where appropriate) is estimated and load distribution checked to ensure they meet manufacturer's requirements.</p> <p>2.2.2 Where applicable, slings and lifting gear are checked and segregated and reported to an authorised person for disposal, repair and/or replacement.</p> <p>2.2.3 Planned <i>procedures</i> for operating hoist are carried out in accordance with manufacturer's instructions.</p> <p>2.2.4 Where slings and lifting gear are used, a check is made in conjunction with associated personnel to ensure that the correct equipment is selected, that it is correctly fitted and is safe for lifting. (This may include a trial lift particularly in the case of near maximum capacity or unusual loads).</p> <p>2.2.5 Emergency procedures are correctly implemented when necessary to cope with such situations as:</p> <ul style="list-style-type: none"><li>- Failure of control</li><li>- Engagement of safety gear</li><li>- Malfunction of interlocks</li><li>- Evacuation of personnel.</li></ul> <p>2.2.6 Planned <i>hazard</i> control strategies are implemented.</p>

## Range Statement

The range of variables explains the range of contexts within which the performance and knowledge requirements of this standard may be assessed. The assessment must determine that there is sufficient skill and knowledge for the operator to take the licence and operate in a new workplace. The assessment must be adjustable but prescriptive to ensure transferability.

What may be involved in routine *checks* of material hoists (cantilever platform)

## Plan and prepare

Planning and preparation is to include but not be limited to:

- worksite inspection
- equipment defect identification
- assessment of conditioning
- hazards
- determination of work requirements.

What is the **definition** of a hoist?

### Materials platform hoist

A builder's hoist by which only goods or materials and not personnel may be hoisted and where the car, bucket or platform is cantilevered from, and travels up and down externally to, a face of the support structure.

What range of hoists may be operated?

The range of hoists may include but not limited to:

- materials
- cantilevered
- platform
- multiple winch
- tower.

*Workplace* requirements may include but are not limited to:

- standard operating procedures
- industry standards
- production schedules
- material safety data sheets
- work notes and plans
- product labels
- manufacturers specifications
- enterprise policies and procedures (Including waste disposal, recycling guidelines)
- supervisors oral and written instructions
- current state/territory occupational health and safety legislation
- Australian standards
- codes of practice or advisory standards.

What *hazards* may be encountered in the workplace?

Hazards may include but not limited to:

- exposure to chemicals
- dangerous or hazardous substances
- explosive materials
- movements of equipment
- goods
- materials
- vehicular traffic.

Operating moving may include but not be limited to:

- overhead power lines
- trees
- overhead service lines such as steam, gas, water, telephone
- underground services
- uneven and/or unstable ground
- allowable floor loading as appropriate
- other workers and persons
- surrounding buildings
- vessels/structures equipment
- hazardous materials
- corrosive substances
- barricades
- explosive materials
- inadequate lighting
- radio interference
- inclement weather.

What *site/occupational health and safety* requirements may be relevant to this standard?

*Site/occupational health and safety* requirements are to include but not be limited to:

- safe systems and procedures for ensuring loads are within working specifications
- identification and avoidance of obstacles during operation
- hazard and risk control
- operator position to maintain unobstructed view
- handling including lifting and carrying
- manual handling
- the application of emergency/defensive action and techniques for controlling loads
- application and storage of hazardous substances
- outdoor work including protection from solar radiation
- noise, dust, rubbish
- protection of people in the workplace
- appropriate use and maintenance of personal protective equipment
- calculate platform and loads
- using lifting equipment and associated gear to manufacturers specifications
- extreme environment temperatures (hot/cold)
- use of high visibility clothing/reflective vests
- traffic management
- barricades.

Safe operating *procedures* are to include but not be limited to:

- conduct of operational risk assessment and treatments associated with power cables (including overhead service trays, cables and conduits)
- lighting
- earth leakage boxes,
- trip hazards
- working with dangerous materials
- working in confined spaces
- surrounding structures
- restricted access barriers
- working at heights.

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
- evacuations.

What permits may be relevant to this standard?

Any permits required to carry out job activity are obtained from the relevant authorized personnel, for example confined spaces, chemical or dangerous goods storage, explosives, road and/or rail.

What *work area* may be relevant to this standard?

Work areas may include but not be limited to:

- factories
- wharfs
- ships
- warehouses
- manufacturing plants
- building sites
- road construction
- demolition sites
- quarries
- mine sites

What personal protective *equipment* may be relevant to this standard?

This may include but not be limited to:

- boots
- hat/hard hat
- overalls
- gloves
- protective eyewear
- hearing protection
- respirator or face mask
- sun protection
- task specific personal protective equipment

What needs to be considered for personal/public safety?

Site/non site personnel are safeguarded (protected) by a variety of measures including:

- the erection of barricades
- posting of signs
- traffic control consistent with principles of the hierarchy of control.
- appropriate equipment is selected to ensure personnel safety and protection.

Who are site/non site *personnel*?

Non site *personnel* may include but not limited to:

- members of the public
- visitors to the site
- delivery driver.

Site *personnel* may include but not limited to:

- employees
- contractors
- management or students.

How might the operation of a material hoist (cantilever platform) be demonstrated in a safe, controlled and correct manner?

Appropriate selection and use of:

- hoist
- features
- settings and operational techniques for the specific settings, specific terrain and weather conditions in the day or night on varying infield terrain without causing damage to machinery, equipment, load, person, property or environment (including soils and property structures).

Correct operation includes using appropriate methods to platform loading enterprise standards so that corrective actions including defensive techniques are implemented.

What procedures may be included in the *shut down* of a material hoist (cantilever platform) and securing of site?

The material hoist (cantilever platform) is shut down in accordance with manufacturers' instructions including:

- platform safe and in a stable position
- inspect, stow and secure all relevant equipment – attachments
- defective equipment is identified and segregated and reported to supervisor and logged and tagged
- lock equipment and remove key.

What records may need to be kept or updated?

- log books
- maintenance records
- records of faults and potential faults
- repairs carried out according to manufacturers specifications and operating procedures.

## Evidence Guide

### What evidence is required to demonstrate competence for this standard as a whole?

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.

Competence in this standard requires evidence of the ability to operate a material hoist (cantilever platform) without damage or injury to property or people. It requires the ability to plan job, select and inspect material and tools and move loads.

### What **critical aspects** of evidence are required to demonstrate competency in this unit?

- Location, interpretation and application of relevant information, standards and specifications.
- Compliance with the site safety plan and occupational health and safety legislation/regulations/codes of practice/advisory standards applicable to workplace operations.
- Compliance with organisational policies and procedures including quality requirements.
- Safe and effective operational use of tools, plant and equipment.
- Communication and working effectively and safely with others.
- Completion of pre-operational check, shut down and carries out post operational checks, all to manufacturer's specifications and complying with occupational health and safety legislation.

### What **specific knowledge** is needed to achieve the performance criteria?

- Operating principles and operating methods
- Legislative requirements with regard to licensing.
- General construction terminology
- Cantilever platform processes and procedures.
- Principles of the safe removal of obstacles and hazards from the workplace.
- The hierarchy of hazard control measures with elimination of substitution, isolation and engineering control measures being selected before safe work practices and personal protective equipment.
- Workplace communication procedures.
- Demonstrate safe and environmentally responsible workplace practices.
- Processes for the calculation of material requirements.
- Understanding limitations of equipment
- Specifications of equipments and how they relate to loads on the platform
- Designs and functions of lifting equipment.
- Safe working load tags.
- Obtain licenses and permits.
- Demonstrate safe and environmentally responsible workplace practices.

What **specific skills** are needed to achieve the performance criteria?

- Readily familiarise self with local conditions.
- Demonstrate emergency operating procedures.
- Read and interpret site planning, manufacturers' specifications, work and maintenance plans and material safety data sheets.
- Comprehend and apply task instructions.
- Working with other plant operators.
- Emergency situations
- Able to listen and understand job requirement.
- Understand written documents for job processes.
- Understand tables and figures for job procedures.
- Understand interrelationship among workplace processes and procedures in the English language.
- Understand and interpret signals and instructions in the English language.
- Hand/eye co-ordination.
- Identify and eliminate defective equipment and/or gear.

What **methods of** assessment should apply?

- Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge.
- Assessment must include as a minimum the achievement of competence to the standard established in the NOHSC assessment instrument. Additional requirements may need to be achieved to comply with the AQTF including key competencies.
- Assessment methods must confirm the ability to access and correctly interpret and apply the essential underpinning knowledge.
- Assessment must be applied in a real work environment or replicated industrial workplace.

In what **context** should the assessment occur?

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

What are the **specific resource requirements** for this unit?

- Workplace location or replicated work facility in accordance with the OHS instrument relating to the OHS jurisdiction.
- Tools and equipment appropriate to cantilever platform
- Specifications and work instructions
- Appropriate material hoist (cantilever platform)
- Communication equipment (radios) (where applicable)
- Occupational Health and Safety Certification Training and Assessment Delivery Guide
- Occupational health and safety assessment instruments
- Occupational health and safety authority learner guide
- Occupational health and safety authority trainer guide.

What processes should be applied to this competency standard?

There are a number of processes that are learnt throughout work and life which are required in all jobs. They are fundamental processes and generally transferable to other work functions. Some of these covered by the key competencies, although other may be added. The questions below highlight how these processes are applied in this competency standard. Following each question is the number in brackets indicates the level to which the key competency needs to be demonstrated where:

0 = not required

1 = perform the process

2 = perform and administer the process

3 = performance, administer and design the process

1. How can communication of ideas and information be applied)	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.  <p style="text-align: right;">Level 1</p>
2. How can information be collected, analysed and organised?	Collect, organize, interpret and understand the information required for operating a material hoist (cantilever platform) including work instructions, plans, sketches, diagrams, safety instructions, labels, quality procedures, manufacturers instructions, material safety data sheets and equipment instructions  <p style="text-align: right;">Level 1</p>
3. How can activities be planned and organised?	Conduct activities associated with operating a including the coordination and use of equipment, materials and tools to avoid back tracking and rework.  <p style="text-align: right;">Level 1</p>
4. How can team work be applied?	Work with others and in a team by recognizing dependencies and using co-operative approaches to optimize satisfaction and productivity.  <p style="text-align: right;">Level 1</p>
5. How can the use of mathematical ideas and techniques be applied?	Use mathematical ideas and techniques to correctly calculate time to complete tasks, estimate measurements, distances and levels, calculate material requirements and establish quality checks.  <p style="text-align: right;">Level 1</p>
6. How can problem solving skills be applied?	Establish safe and effective work processes which anticipate likely problems and blockages and systematically work around those to avoid or minimize reworking and avoid wastage.  <p style="text-align: right;">Level 1</p>
7. How can the use of technology be applied	Use workplace technology related to operating a material hoist (cantilever platform) including the use of calculators, the use of communication devices and the reporting and/or recording of results.  <p style="text-align: right;">Level 1</p>

Are there any other competency standards that could be assessed with this one?

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

It is strongly recommended people wishing to undertake this unit possesses dogging competencies and relevant current industry experience. This may be demonstrated through a log book or record of training.

There is essential information about assessing this competency standard for the consistent performance and where and how it may be assessed in the Assessment Guideline developed by the National Occupational Health and Safety Commission. All users of this competency standard must have access to this guideline.