



Australian Government

Department of Education, Employment and Workplace Relations

AHCARB207A Perform ground based rigging

Release: 1

AHCARB207A Perform ground based rigging

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit of competency covers the process of rigging on the ground and defines the standard required to: select and examine ropes and equipment; select and use a rigging system as directed; assist with tree operations; use established methods of rigging and communicate effectively with work crew.
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Application of the Unit

Application of the unit	This unit applies to work crew engaged in the process of ground based rigging and applies to the appropriate selection and use of rigging equipment and methods. Ground based rigging work requires the application of arboricultural knowledge and skills including different techniques of rigging to raise, lower, control or redirect a load in undertaking tree pruning and /or tree removal. Some discretion and judgement is required. Ground based rigging is likely to be performed under routine supervision with periodic checking by supervisors or qualified arborists and is usually done within established routines, using documented low risk work methods and procedures and according to stringent Occupational Health and Safety (OHS) guidelines. Interactive communications within the work crew are integral to the rigging process. Equipment is used and maintained in accordance with the manufacturer's specifications. Work practices are in accordance with relevant legislation and contract requirements. This unit does not cover crane operations.
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units	

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Assist in the preparation of the work site	1.1. Assistance is provided to confirm the location of worksite and location of the correct tree as per the scope of works. 1.2. Required site permits and licences are obtained. 1.3. Assistance is provided to a qualified arborist in the inspection of the tree for structural defects. 1.4. Site hazards are identified; risks assessed and reported to the supervisor or qualified arborist. 1.5. The work zone is confirmed with the work crew and is monitored. 1.6. Traffic management plans for the work site are implemented as instructed.
2. Prepare for rigging	2.1. Rigging method is discussed by the work crew and determined by supervisor or qualified arborist. 2.2. Rigging method confirms the risk controls selected in accordance with established and documented low risk work methods. 2.3. Appropriate rigging equipment is selected as directed. 2.4. Rigging equipment is examined, assembled, installed and checked for equipment defects.
3. Perform rigging operations	3.1. Communication with the person cutting is commenced, instructions are received and appropriate responses are provided. 3.2. Appropriate knots are selected and tied as required. 3.3. Rigging system and environmental conditions are monitored. 3.4. Rigging is adjusted as instructed. 3.5. Load is controlled and raised, lowered or re-directed as instructed. 3.6. Load is disconnected from the rigging system and rigging equipment is checked. 3.7. The appropriate component of the rigging system is returned to the person cutting.
4. Complete rigging operations	4.1. The load is removed from the drop zone. 4.2. Rigging operations are completed as per scope of works. 4.3. Tools, equipment and machinery are cleaned, checked, and replaced if faulty or worn, and stored.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- technical skills sufficient to:
 - identify, use and maintain rigging equipment and devices on the ground
 - examine equipment before and during use and identify problems, defects and faults
 - select rigging equipment as directed
 - assemble a range of rigging equipment
 - safely operate and maintain rigging equipment
 - carry out rigging operations appropriate to site conditions
 - identify unsafe rigging practices
 - understand equipment terminology and names
 - select and tie essential knots required for rigging
 - operate lowering devices as required
 - practice rescue techniques
 - store and maintain rigging equipment
 - install a rope in a tree.
- communication skills sufficient to:
 - use and respond to appropriate communication and interpersonal techniques and methods with colleagues and others; and,
 - use voice, hand and whistle signals with other operators to maintain effective and low risk rigging operations
 - report information about problems, defects and faults.
- literacy skills sufficient to:
 - accurately locate and report information;
 - interpret written text material; and,
 - interpret, apply and convey information in written, diagrammatic and/or verbal form.
- spatial skills sufficient to:
 - estimate distances and dimensions of trees and equipment
 - estimate the centre of gravity for balancing a load
 - estimate areas for safe work zones.
- numeracy skills to:
 - understand and recognise numerical terms of equipment breaking strains, safe

REQUIRED SKILLS AND KNOWLEDGE

- working loads, manufacturer's specifications and labeling
 - use basic geometry to measure distances and dimensions
- problem solving skills sufficient to:
 - identify work requirements;
 - identifying any faults in tools, equipment or materials
 - recognise own limitations in identifying problems in conditions and trees for rigging
 - demonstrate appropriate response procedures following identification of problems; and, provide alternative rigging solutions
 - apply low risk work practices including the use of personal and protective equipment and control of hazards
 - identify hazards, assess risk and report to supervisor.
- teamwork skills sufficient to:
 - use communications to complete complex tasks efficiently and safely
 - coordinate own work with others to action tasks;
 - to relate to people from a range of cultural and ethnic backgrounds and with varying physical and mental abilities
- the ability to comply with legislation, regulations, standards, codes of practice and established safe practices and procedures for rigging.

Required knowledge

- organisational and site standards, requirements, policies and procedures for rigging
- types and purposes of a range of rigging equipment and devices
- the use, operation and maintenance of rigging equipment in accordance with the manufacturer's specifications and recommendations
- common problems with rigging and their potential consequences and solutions
- established communication and management channels and protocols
- the recognition of structural defects in trees
- methods of using and operational principles and limitations of friction devices
- procedures for recording and reporting workplace information
- appropriate mathematical procedures for estimating and measuring
- common rigging hazards
- basic physics for load distribution, gravity, heat, potential and kinetic energy, mass, force and leverage
- basic knowledge and understanding of applicable standards and Code of Practice relevant to the full range of processes for rigging
- environmental protection requirements
- basic anatomy, physiology and nomenclature of trees
- safe working load of rigging equipment
- awareness of breaking strength, safety factor and cycles to failure
- signals and communication systems

REQUIRED SKILLS AND KNOWLEDGE

- first aid and rescue procedures
- use of personal protection equipment.

Evidence Guide

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

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

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:

- select and examine ropes and equipment;
- select and use a rigging system as directed;
- assist with tree operations;
- use established methods of rigging
- communicate effectively with work crew.

Context of and specific resources for assessment

Competency requires the application of work practices under work conditions. Selection and use of resources for some work sites may differ due to the regional or enterprise circumstances. There is an industry expectation for refresher training and assessment.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole.

Tree may include:

- the range of tree species that are:
 - hardwood
 - softwood
 - palms and palm-like
- trees that are:
 - alive
 - dead
 - single or multi-stemmed
 - leaning or straight.

RANGE STATEMENT	
Structural defects may include:	• cracks • splits • cavities • decay and inclusions.
Site hazards may include:	• aspects of terrain such as: • ground slope • uneven/unstable surfaces • high risk trees and tree parts • tree species characteristics • lean of tree • canopy attributes • overhead and underground services • adjacent objects such as infrastructure • existing vegetation such as ground vegetation density • excavations • traffic • hazardous materials • fires • insects and animals • other personnel and machinery.
Work zone may include:	• the exclusion zone • safe drop zone • safe fall zone • traffic management zone • asset management zone area under the load • the area that the load is directed to.
Traffic may include:	• pedestrian • vehicle.
Rigging method may include:	• simple rope • taut line • speed line • tag-pull line • lowering • raising • cradling • tip or butt lowering • false crotch.

RANGE STATEMENT	
Rigging equipment may include:	- ropes, including aspects of rope such as: - materials - construction - diameter - limits - terminations - karabiners - pulleys - slings - shackles - rapids. - Slings may be: - spliced, sewn or swaged; and may be adjustable, continuous or fixed length. - Slinging configurations could include choke or basket.
Equipment defects may include:	signs of wear, melting, burning, stretching, cracking, incompatibility, overload failure, or equipment that is cut, bent, broken or faulty.
Communication may include:	- voice communications - whistles - hand signals.
Knots may include:	- bowline - running bowline - bowline on a bight - blood knot - tautline - sheet bend - Prussik - figure 8 - friction - alpine - timber hitch - clove hitch - half hitch.
Rigging system includes:	the assembly of all the component parts of rigging equipment. This may include mechanical advantage and friction from tree or friction devices or other fixed objects.

RANGE STATEMENT	
Environmental conditions may include:	the range of variations in weather such as wind speed and direction.
Load may include:	- tree - tree parts - rigging equipment - tools.
Disconnected may include:	the method of removing the rigging such as un-clipped, untied, unscrewed, unshackled or un-hitched.

Unit Sector(s)

Unit sector	Arboriculture
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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