

Modification history

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture, Conservation and Land Management Training Package Version 4.0.
Release 1	This version released with AHC Agriculture, Horticulture, Conservation and Land Management Training Package Version 1.0.

AHCARB307	Use advanced climbing techniques
Application	<p>This unit of competency describes the skills and knowledge required to climb trees with ropes, harnesses and specialist equipment using specialised equipment and climbing techniques for the purpose of mobility in the canopy of trees to acquire a safe work position.</p> <p>The unit applies to individuals who work under broad direction and take responsibility for their own work. They use discretion and judgement in the selection, allocation and use of available resources and for solving problems.</p> <p>No occupational licensing, legislative or certification requirements are known to apply to this unit at the time of publication.</p>
Prerequisite Unit	Nil
Unit Sector	Arboriculture (ARB)

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare site and inspect equipment	1.1 Confirm access to site and scope of works with client 1.2 Undertake a site-specific Job Safety Analysis (JSA) and record and implement site-specific control measures 1.3 Confirm availability of first aid and rescue personnel, equipment and procedures 1.4 Conduct pre-operational preparations and safety checks, on ropes, harnesses, tools and equipment 1.5 Select, ensure serviceability and use personal protective equipment
2. Prepare to access tree	2.1 Inspect tree to determine efficient safe access route and method through discussion with work team 2.2 Select and prepare climbing equipment according to manufacturer instructions, work health and safety regulations and industry standards 2.3 Configure climbing equipment components to form functional tree climbing system appropriate to the access method selected 2.4 Tie, dress, set and finish climbing knots and hitches according to climbing system requirements 2.5 Sharpen, prepare and fit climbing spurs and gaffs 2.6 Conduct pre-climb checks of configured systems to ensure compatibility, safety and function according to climbing system, industry standards and manufacturer instructions

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
3. Access and work position within tree	3.1 Select anchor points according to suitable load bearing requirements in accordance with access method selected 3.2 Install low risk anchor points using throw lines 3.3 Test remotely installed anchor points are secure before use 3.4 Ascend tree and access work positions within tree crown using climbing systems appropriate for work task and tree structure 3.5 Configure and use mechanical devices within functional climbing systems for ascending trees and work positioning 3.6 Access work positions within tree crown by using climbing techniques for both pruning and dismantling work tasks 3.7 Communicate with work team during operations according to work site and environmental conditions using methods agreed with work team 3.8 Observe and maintain safe clearance from hazards and climbing and rigging equipment 3.9 Maintain awareness and clearances for avoiding electrical power lines according to workplace safety procedures
4. Descend from tree	4.1 Descend tree using climbing equipment in a controlled manner 4.2 Remove all climbing equipment safely in a controlled manner according to manufacturer instructions 4.3 Inspect, clean, maintain, and store climbing and safety equipment according to manufacturer instructions

Foundation Skills	
<i>This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.</i>	
Skill	Description
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Unit Mapping Information			
Code and title current version	Code and title previous version	Comments	Equivalence status
AHCARB307 Undertake advanced tree climbing	AHCARB307 Undertake advanced tree climbing and AHCARB312 Use Standard climbing techniques	This is equivalent to the combined units AHCARB307 Undertake advanced tree climbing and AHCARB312 Use Standard climbing techniques Title change to reflect unit content	Equivalent unit (see comment)

Links
Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72

TITLE	Assessment requirements for AHCARB307 Undertake advanced tree climbing
Performance Evidence	
<p>An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.</p> <p>There must be evidence that the individual has demonstrated climbing techniques for arboriculture work on at least 3 structurally different trees:</p> <ul style="list-style-type: none"> • confirmed access to site and scope of works with client • undertook a job safety analysis (JSA) for the specific site and work activities and implemented control measures • confirmed availability of first aid and rescue personnel, equipment and procedures • conducted pre-operational safety checks, on ropes, harnesses, tools and equipment • selected and used personal protective equipment and safety equipment during works • inspected tree and discussed with work team a safe access route in tree • selected and prepared climbing equipment for accessing tree • selected, prepared, fitted and used climbing spurs and gaffs for climbing trees • ascended, navigated, assumed work positions and descended tree canopy using climbing techniques, climbing systems and remote anchor points including: <ul style="list-style-type: none"> • moving rope technique (MRT) • stationary rope technique (SRT) • double rope with prussik technique • multiple lines for climbing and tree operations • artificial and natural redirects • trunk walking technique and foot ascenders • climbing spurs ensuring separation of spurs and clearance distance between spurs and ropes • set up redirects and belays using slings and anchors • use mechanical devices within functional climbing systems for ascending and positioning including: <ul style="list-style-type: none"> • pulleys and hitches • tied, dressed, set and finished climbing knots and hitches for rigging and climbing applications according to industry standards including: <ul style="list-style-type: none"> • Scaffold knot • Double Fishermans Knot/Prusik loop • Girth Hitch • English Prusik Knot • Marlin Spike • Clove Hitch • Double Overhand Stopper Knot • Sheet bend • Slippery Sheet Bend • Bowline Knot • Running Bowline Knot • communicated with work team during operations using agreed communication procedures • maintained safe clearances from power lines • removed all access equipment in a controlled manner • inspected, cleaned maintained and stored climbing and personal protection equipment according to manufacturer's instructions. 	
Knowledge Evidence	
<p>An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:</p> <ul style="list-style-type: none"> • assessing and selecting methods for climbing trees and methods of tree access • assessing work health, safety, site, environmental and traffic control measures including: <ul style="list-style-type: none"> • preparing JSAs for site-specific risks • purpose of first aid and rescue personnel, equipment and procedures 	

Knowledge Evidence

- pre-operational and safety checks, on ropes, harnesses, tools and equipment
- personal protective equipment used when climbing
- arborist climbing equipment, use and maintenance including:
 - ropes and their characteristics
 - uses of climbing ropes
 - types of climbing ropes
 - dynamic ropes
 - triple locking carabiners
 - climbing hardware
 - climbing spurs and gaffs, their preparation and use for climbing trees
- purpose, function, selection, tying, dressing, setting, checking and finishing of arborist knots used for climbing techniques
- safety when climbing trees including:
 - safe working limits ropes and equipment
 - defects in ropes, tools and equipment
 - climbing harnesses and lanyards
 - controlled descent operations
 - controlled removal of access equipment
- hazards to avoid when climbing within the tree canopy including:
 - power line safe approach distances and vegetation clearances
 - tree structural defects
 - spurs, rigging equipment and ropes
 - deciding on low risk access routes
- limits, advantages and disadvantages of friction hitches including:
 - Tautline
 - Blake's
 - Prussik
 - Klemheist
 - Valdetain
 - French Prussik
 - and specialised variations
- selecting knots suited to the rigging, climbing application and equipment including effect on:
 - loss of rope strength
 - appropriate rope for knot application
 - requirements for secondary knots and stopper knots
 - appropriate rope used for knot application
- arborist knots
 - knot type and tying procedure
 - dressing
 - setting
 - checking
 - finishing
- communications strategies used in arboriculture including:
 - voice
 - hand
 - whistle signals
 - electronic communications
- assessing tree access routes, techniques and equipment and evaluating risk
 - single and double rope techniques
 - uni-ascenders and foot ascenders
 - friction belay devices and micro-pulleys
 - use of climbing spikes of various lengths
 - change-overs
 - redirects and belays using slings and anchors
 - use of multiple lines to access trees and tree parts
 - low risk anchor points

Knowledge Evidence
<ul style="list-style-type: none"> inspecting, cleaning, maintaining and storing climbing equipment.

Assessment Conditions
<p>Assessment of skills must take place under the following conditions:</p> <ul style="list-style-type: none"> physical conditions: <ul style="list-style-type: none"> access to at least three (3) trees with different canopy structures for individuals to demonstrate different climbing and manoeuvring techniques resources, equipment and materials: <ul style="list-style-type: none"> full arborists climbing kit harnesses climbing spurs and gaffs communications equipment agreed by work crew personal protective equipment (PPE) first aid and emergency kit rescue kit traffic management kit chaps climbing friction hitches specifications: <ul style="list-style-type: none"> workplace and manufacturer instructions for safe operation, cleaning and storing of equipment access to industry standards relationships: <ul style="list-style-type: none"> client and work team. <p>Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.</p> <p>In addition, the following specific assessor requirements apply to this unit:</p> <ul style="list-style-type: none"> arboriculture vocational competencies at least to the level being assessed current arboriculture industry skills directly relevant to the unit of competency being assessed.

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