



Australian Government

Department of Education, Employment and Workplace Relations

SISOVTR402A Perform complex vertical rescues

Release: 2

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Modification History

Not Applicable

Unit Descriptor

This unit describes the performance outcomes, skills and knowledge required to rescue self and others in complex single and multi pitch vertical contexts. This unit only addresses specific vertical rescue competencies. It does not address generic competencies such as anchor selection.

Application of the Unit

This unit applies to those working as outdoor guides in a range of uncontrolled activity-specific contexts in the fields of roping. This may include those required to perform complex single and multi pitch vertical rescues during abseiling, canyoning, caving and climbing activities.

This unit may also apply to leaders working for outdoor education or adventure providers; volunteer groups; not-for-profit organisations or government agencies.

Licensing/Regulatory Information

No licensing, regulatory or certification requirements apply to this unit at the time of endorsement.

Pre-Requisites

Nil

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the Evidence Guide.

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|--|---|
| 1. Prepare for rescue. | <p>1.1. Select rescue <i>equipment</i> based on situation and check to ensure it is safe for use.</p> <p>1.2. Identify immediate <i>hazards</i> and assess <i>risks</i> to self and others.</p> <p>1.3. Assess the <i>complex vertical rescue</i> situation and select and co-ordinate a suitable <i>rescue method</i> according to <i>relevant legislation</i> and <i>organisational policies and procedures</i>.</p> <p>1.4. Communicate directions to other members of the group.</p> |
| 2. Establish rescue system. | <p>2.1. Identify <i>situations</i> requiring the use of <i>mechanical advantage systems</i> and determine the type of system required according to contextual issues and organisational policies and procedures.</p> <p>2.2. Organise operational systems to raise and lower a person or equipment, ensuring the safety of operators, rescuee and others.</p> <p>2.3. Rig ropes for efficient ascent or descent.</p> <p>2.4. Use system equipment in a safe and effective manner according to manufacturer's recommendations and organisational policies and procedures, to ensure that design limits are not exceeded.</p> |
| 3. Perform complex self rescues. | <p>3.1. Assess the situation and identify suitable <i>obstacle avoidance or extrication procedures</i> according to organisational policies and procedures.</p> <p>3.2. Carry out complex self rescue and negotiate <i>obstacles</i> while maintaining personal safety according to organisational policies and procedures.</p> |
| 4. Undertake complex vertical rescues. | <p>4.1. Identify rescue techniques for complex situations and select a technique according to the degree of urgency, resources, rescuee status and personal</p> |

ELEMENT**PERFORMANCE CRITERIA**

- ability.
- 4.2. Identify situations requiring approach from above or below and apply approach procedures for the situation.
 - 4.3. Demonstrate an escape from the belay system.
 - 4.4. Establish rescue system efficiently and inform other group members of their roles.
 - 4.5. Construct and use an improvised *harness* in a rescue situation.
 - 4.6. Operate a rescue system, demonstrating lowering and raising procedures to recover conscious and unconscious persons in single and multi pitch situations, with assistance from others.
 - 4.7. Provide assistance to establish and use a system to rescue a person on a stretcher.
5. Conclude rescue operations.
 - 5.1. Check and store equipment according to organisational policies and procedures and manufacturer's guidelines.
 - 5.2. Evaluate rescue activity and identify improvements for future complex vertical rescues.

Required Skills and Knowledge

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

Required skills

- problem-solving skills to:
 - determine the rescue method to use according to the complex situation
 - anticipate and mitigate hazards, obstacles and risks
 - set up rescue ropes that allow for efficient ascent and descent
- communication skills to:
 - inform progress
 - interact with other personnel and rescuee throughout the rescue process
- teamwork skills to:
 - support other personnel in the rescue operation
 - assist others with lowering and raising procedures to recover a conscious or unconscious person
- planning and organising skills to select relevant equipment and resources
- methods of ascending and descending a fixed rope and the ability to change over
- first aid and emergency response skills appropriate to the location to enable initial response to emergencies.

Required knowledge

- legislation and organisational policies and procedures to enable safe conduct of complex vertical rescue activities
- hazards, obstacles and risks associated with complex vertical rescues to minimise risk to those involved
- rigging of rescue ropes to allow for efficient ascents and descents
- equipment and resource types, characteristics and technology to enable appropriate selection and use of equipment
- methods of removing conscious and unconscious rescuee or equipment from complex vertical single or multi pitch, including lowering and raising procedures
- rescue methods and techniques for using belay systems and devices, anchors, knots and ropes
- principles of mechanical advantage systems and contexts in which they are used to enable safe and efficient operations
- safety systems and emergency procedures relevant to the location and situation to ensure safety of self and other participants.

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

Evidence of the following is essential:

- assesses the rescue scene to identify potential hazards, obstacles and risks, and determines the most effective and efficient rescue method according to the situation
- selects rescue equipment and rigs ropes that allow for safe ascents and descents
- performs self-rescue in complex situations while maintaining personal safety and negotiating obstacles and hazards
- identifies situations requiring approach from above or below and those requiring the use of mechanical advantage systems to raise and lower a person or equipment
- applies lowering and raising procedures, with assistance from others where required, in a controlled manner to recover a conscious and unconscious person in a variety of complex situations.

Context of and specific resources for assessment

Assessment must ensure participation in multiple vertical rescue activities in complex single and multi pitch contexts to demonstrate competency and consistency of performance.

Assessment must also ensure access to:

- a suitable complex single or multi pitch, in activity specific contexts such as abseiling, canyoning, caving and or climbing
- personnel for team based rescues
- rescue, safety, roping and activity-specific equipment according to rescue circumstances.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- observation of selecting equipment and rigging ropes for safe ascents and descents
- oral or written questioning to assess knowledge of complex single and multi pitch vertical rescue

procedures and potential hazards, obstacles and risks

- observation of performing safe and efficient self rescues and rescues of others using mechanical advantage systems
- third-party reports from a supervisor detailing performance.

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example:

- Activity-specific units from the Fields of roping such as abseiling, canyoning, caving, climbing.

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.

Equipment may include:

- Prusik cords
- foot loops
- tape
- mechanical ascenders
- descending devices
- karabiners
- maillon rapids
- rope
- stretcher
- helmet
- harness
- artificial protection
- rescue pulleys
- releasable hitches
- knife
- slings
- first aid equipment
- personal protective equipment.

Hazards may include:

- temperature extremes
- slippery or unstable terrain
- dangerous animals and insects
- stinging trees and nettles
- dense vegetation
- group management hazards.

Risks may include:

- hypothermia
- heat exhaustion
- injuries
- exhaustion
- lost party or party member
- equipment failure.

Assess may include:

- scouting hazards
- determining rescue abilities
- identifying the degree of urgency
- availability of physical and human resources.

- Complex vertical rescues*** may include:
- multi pitch
 - numerous obstacles to negotiate
 - rescuee is unconscious
 - limited physical and human resources
 - counter balancing abseiling techniques
 - extreme environmental conditions.
- Rescue method*** may include:
- raising
 - lowering
 - assisted rescue from above or below
 - diagonal or horizontal traversing
 - transferring loads from one rope to another
 - descending methods for a 2 person abseil
 - pluck off.
- Relevant legislation*** may include:
- occupational health and safety
 - permits or permission for access
 - environmental regulations
 - marine regulations.
- Organisational policies and procedures*** may include:
- occupational health and safety
 - use, maintenance and storage of equipment
 - communication protocols
 - access to medical personnel
 - removal of casualties
 - minimal impact codes
 - code of ethics.
- Situations*** may include:
- 'frozen', wedged or inverted participant on pitch
 - hair or clothing jam
 - stuck rope or equipment
 - participant unable to overcome difficult section of route.
- Mechanical advantage systems*** may include:
- simple pulley systems with only one moving pulley
 - compound pulley systems with more than one pulley in system
 - assisted and unassisted hoist.
- Obstacle avoidance or extrication procedures*** may include:
- by-passing obstacle
 - raising body weight
 - changeovers to another system while suspended on a rope.
- Obstacles*** may include:
- knots
 - rope pads and protectors
 - traverses

Harness may include:

- ledges
- trees
- other pitch users.
- sit
- chest.

Unit Sector(s)

Outdoor Recreation

Competency Field

Vertical Rescues