



Australian Government

SISORSC002 Perform vertical rescues

Release: 1

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Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to establish ropes and belays for rescue rope systems, and to use single rope techniques and mechanical advantage systems to rescue self and others during single pitch activities.

Vertical single rope rescue skills are required in a range of activity contexts which can include abseiling, climbing, canyoning and caving.

It applies to leaders, guides or instructors, and others who use discretion and judgement to manage problems and emergencies when they arise.

This unit applies to any type of organisation that delivers outdoor recreation activities including commercial, not-for-profit and government organisations.

No occupational licensing, certification or specific legislative requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Rescue Operations

Unit Sector

Outdoor Recreation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes

1. Determine rescue requirements and prepare for rescue.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1. Assess situation, identify hazards promptly, assess risks and manage to avoid injury to self and others.
- 1.2. Determine appropriate rescue methods and techniques for situation and according to needs of person to be rescued.

- 1.3. Select equipment required for single rope rescues.
 - 1.4. Determine roles and responsibilities of others; complete a briefing and provide clear and concise instructions throughout rescue.
 - 1.5. Implement rescue operations according to organisational policies and procedures for emergency response.
2. Establish systems for vertical rescues.
 - 2.1. Determine need for use of mechanical advantage systems, identify and establish type appropriate for the rescue situation.
 - 2.2. Select and rig or establish multiple anchors, ensuring equalisation and minimise potential for shock loading.
 - 2.3. Promptly establish rescue systems required to raise and lower persons from a single pitch.
 - 2.4. Rig single rescue rope to minimise effects of rope stretch and rub points and for efficient descent and ascent during rescue.
 - 2.5. Establish belays suitable for rescue circumstance and to ensure personal safety during rescues.
 - 2.6. Verify manufacturers' recommendations, equipment limitations and safety margins, and rig equipment accordingly.
3. Descend and ascend a pitch using single rope techniques.
 - 3.1. Attach and adjust belay equipment to self and tie knots suitable for the established belay system.
 - 3.2. Descend and ascend a fixed rope efficiently, using and adjusting techniques suitable for circumstances.
 - 3.3. Safely approach, avoid or negotiate hazards to descend and ascend in a controlled manner.
 - 3.4. Utilise techniques and equipment to adjust the single rope rig.
 - 3.5. Choose optimum position and complete safe and efficient changeovers between descending and ascending.
 - 3.6. Use techniques that minimise damage to equipment and the surface during activities.
4. Rescue others.
 - 4.1. Establish communication with rescuee and provide clear and concise instructions and information throughout the rescue.
 - 4.2. Operate rescue system to raise and lower persons from a single pitch.
 - 4.3. Safely and efficiently escape a loaded belay system and transfer from belay device to direct connection to anchor.
 - 4.4. Maintain safety of self, others and rescuee throughout rescue operations.
5. Rescue self.
 - 5.1. Determine need for self rescue, assess situation and

- identify suitable techniques to resolve.
- 5.2. Anticipate hazards and utilise techniques to approach, avoid or negotiate throughout self rescue.
- 5.3. Implement extrication techniques to release from compromised situation.
- 5.4. Maintain personal safety throughout rescue operations.
- 6. Debrief and complete reports.
 - 6.1. Participate in incident management debrief and identify future response improvements.
 - 6.2. Complete required incident reports according to organisational procedures.

Foundation Skills

Foundation skills essential to performance in this unit, but not explicit in the performance criteria are listed here, along with a brief context statement.

SKILLS	DESCRIPTION
Reading skills to:	interpret detailed familiar organisational policies and procedures for emergency response.
Writing skills to:	record detailed and accurate factual information about rescue responses.
Numeracy skills to:	- complete simple calculations and approximations of loads for anchors, ropes and pulleys - visually estimate distances to calculate lengths for ropes.
Teamwork skills to:	pro-actively and cooperatively work within teams of operational personnel to coordinate rescue logistics, solve arising problems and effect efficient rescues.
Self-management skills to:	critically analyse all circumstances and implications to coordinate a considered response to rescue requirements.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume Implementation Guides -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1ca50016-24d2-4161-a044-d3faa200268b>

Assessment Requirements for SISORSC002 Perform vertical rescues

Modification History

Not applicable.

Performance Evidence

Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the job role, and:

- establish systems for and complete the following simulated vertical rescues:
 - two rescues of conscious persons
 - two self rescues
- across the four rescues, collectively utilise the following equipment, techniques and methods:
 - select and tie at least four different types of knots suitable for the system type established, and appropriate for the intended load and function
 - mechanical advantage systems which include simple pulley systems with one moving pulley
 - raising rescuee
 - lowering rescuee
 - single rope techniques including:
 - changeovers from descending to ascending
 - changeovers from ascending to descending
 - changeover to another system while suspended on a rope
 - bypassing knots
- for each rescue operation
 - designate roles and responsibilities to team members and participants to effectively complete rescues
 - maintain effective communication with the rescuee
 - participate in a debrief and complete an incident report.

Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- organisational policies and procedures for emergency response
- roles and responsibilities that can be allocated to team members and participants to effectively complete a single rope rescue
- features, functions, advantages and disadvantages of different types of anchors:
 - fixed artificial

- naturally occurring
- artificial removable:
- the effects of rope stretch during single rope operations and implications if not minimised:
 - abrasions
 - rope bounce
 - undue stress on the anchor system
 - stretch increases haulage effort
 - potential for rescuer and rescuee to impact with hazards, or become entangled or further entangled
- features and functions of equipment used for single rope descents and ascents, and their specific application to rescue operations:
 - belay systems:
 - top rope top belay
 - bottom brake
 - self-belay
 - descending devices:
 - assisted locking
 - inline
 - plate
 - figure 8
 - tubular
 - improvised
 - belay devices:
 - assisted locking
 - inline
 - plate
 - figure 8
 - tubular
 - improvised
 - harnesses of different types
 - carabiners
 - maillon rapides
 - static and dynamic rope and when each might be used
 - rope protectors
 - tape
 - sewn sling
 - personal attachment systems, including cow's tails
 - Prusik cords
 - foot loops
 - mechanical ascenders

- mechanical advantage systems; simple pulley systems with one moving pulley
- how the following factors affect the selection and rigging of above equipment for single rope rescues:
 - site characteristics including position of rub points
 - weather and environmental conditions
 - rescuer's size, weight, and ability
- manufacturers' specifications for equipment use
- techniques used to:
 - establish belay systems for single rope rescues
 - close the system; advantages and disadvantages of doing so
- when different knots are used in rigging, advantages and disadvantages, and how to tie them:
 - fixed eye
 - mid line tied in the bight
 - end to end joining
 - termination
 - load control hitches
 - slide and grip hitches
- safety requirements at the pitch head including use of personal attachment systems
- techniques used to adjust the rope rig to include those for changing:
 - cord length
 - types of ascenders and descenders
 - type of ascending action used
- single rope rescue techniques used to:
 - raise and lower conscious persons from single pitches
 - descend and ascend a fixed rope
 - lock off during descent
 - changeover from descending to ascending
 - changeover from ascending to descending
 - changeover to another system while suspended on a rope
 - bypass knots
 - secure rescuer and escape from a loaded belay system
- typical hazards associated with single rope descents and ascents, and techniques used to safely negotiate.

Assessment Conditions

Skills must be demonstrated in an above or below ground single pitch environment which might include cliff faces, canyons or caves with vertical to near vertical surfaces.

The following resources must be available to replicate industry conditions of operation:

- first aid equipment

- communication equipment for emergency response.

Assessments can only be completed through simulated activities. Simulations must incorporate time critical requirements.

Assessment must ensure use of:

- people who act as team members, participants and rescuees with whom the individual interacts during simulated rescues
- personal protective equipment to include:
 - gloves, as required
 - abseiling or climbing helmets
 - harnesses
- anchors which can include:
 - fixed artificial
 - naturally occurring
 - artificial removable
- single rope abseiling equipment:
 - carabiners
 - maillon rapides
 - rope which can include static and or dynamic rope
 - rope protectors
 - tape or sewn sling
 - personal attachment systems, including cow's tails
 - Prusik cords
 - foot loops
 - mechanical ascenders
 - descending devices
 - belay devices
 - mechanical advantage systems
- template incident reports
- organisational policies and procedures for emergency response.

Assessors must satisfy the Standards for Registered Training Organisations requirements for assessors, and:

- have a collective period of at least three years' experience as a recreational activity leader, guide or instructor; or as a rescue operator where they have applied the skills and knowledge covered in this unit of competency; the three years' experience can incorporate full and or part time experience.

Links

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