



Australian Government

SISOCVE002 Descend and ascend ladders in caves

Release: 1

SISOCVE002 Descend and ascend ladders in caves

Modification History

Not applicable.

Application

This unit describes the performance outcomes, skills and knowledge required to descend and ascend vertical pitches in caves using ladders. It also requires the ability to belay ladder climbers during descents and ascents and to self-belay.

It applies to leaders, guides or instructors, who use these skills when leading participants during caving activities. Leadership skills are provided in complementary units.

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

Caving

Unit Sector

Outdoor Recreation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes

1. Prepare for the ladder descent or ascent.

PERFORMANCE CRITERIA

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

- 1.1. Select clothing, footwear and personal protective equipment suitable for the caving activity and conditions.
- 1.2. Confirm activity safety and emergency response procedures to ensure compliance during activities.
- 1.3. Confirm protocols for communications between climber and belayer.
- 1.4. Identify position of ladder in relation to natural features to account for obstacles, hazards and techniques.

- 1.5. Attach and adjust belay equipment to self and tie knots suitable for the established belay system.
 - 1.6. Complete equipment safety checks prior to descent, ascent, or belaying.
2. Descend and ascend and vertical ladders in caves.
 - 2.1. Use safety procedures at bottom, top of and throughout descents and ascents to minimise risk to self and others present.
 - 2.2. Use appropriate posture and fluent laddering techniques to descend and ascend cave ladders.
 - 2.3. Utilise techniques for resting on a ladder to reduce fatigue.
 - 2.4. Safely approach, avoid or negotiate hazards to descend and ascend in a controlled manner.
 - 2.5. Maintain effective communication with belayer throughout descents and ascents.
 - 2.6. Use techniques that minimise damage to equipment and the cave environment during climbs.
3. Belay ladder climbers during descents and ascents.
 - 3.1. Avoid or negotiate hazards and use safety procedures to minimise risk to self and others present.
 - 3.2. Establish belaying position and attach self to anchor, as required, to allow effective and safe use of belay system.
 - 3.3. Maintain rope tension to minimise fall distance and ensure climber movement is not unduly restricted.
 - 3.4. Monitor climber progress constantly, and maintain clear communication with climber.
 - 3.5. Arrest falls promptly using technique suitable to belaying device and situation.
 - 3.6. Safely and efficiently secure climber using tie off techniques; release tie off and allow climber to continue.
4. Self-belay during ladder descents and ascents.
 - 4.1. Attach self to suitable belay device for climb with back up to maintain safety in the event of a fall.
 - 4.2. Use appropriate posture and laddering techniques to execute self-belayed ladder descents and ascents.
 - 4.3. Control self-belay system to execute safe and controlled ladder descents and ascents.
 - 4.4. Utilise features of back up belay system in the event of a fall to self-arrest, self-rescue and complete climb.

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 and familiar organisational safety and emergency response procedures.
Oral communications skills to:	use clear and unambiguous verbal and non-verbal communications to make intent known.
Numeracy skills to:	visually estimate angles, estimate load on ropes and ladders to determine appropriate tension for climbing and belaying.

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 SISOCVE002 Descend and ascend ladders in caves

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:

- complete the following ladder climbs in natural caves:
 - two descents with a belayer
 - two ascents with a belayer
 - two self-belayed descents
 - two self-belayed ascents
- during each of the above climbs, consistently:
 - follow safety procedures and safely negotiate hazards to descend and ascend in a controlled manner
 - connect self to belay system using appropriate device and or knots
- complete two additional self-belayed climbs, simulating a self-arrest and self-rescue to complete the climb
- belay ladder climbers according to safety procedures, and complete the following:
 - one top rope, top belayed descent
 - one top rope, top belayed ascent
 - one top rope, bottom belayed descent
 - one top rope, bottom belayed ascent
 - two simulated climber falls, and safely and efficiently secure and release climbers to continue.

Knowledge Evidence

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

- organisational safety and emergency response procedures for caving activities
- purpose, features, and correct fit for safety, of personal protective equipment for laddering in caves to include:
 - clothing
 - footwear
 - gloves
 - caving helmets

- headlamps
- harnesses of different types, advantages and disadvantages
- features, functions and operation of laddering equipment used in caves:
 - carabiners
 - maillon rapides
 - static and dynamic rope and when each might be used
 - tape
 - sewn sling
 - caving ladders
 - personal attachment systems, including cow's tails
 - Prusik cord
 - mechanical ascenders
 - belay systems:
 - top rope top belay
 - top rope bottom belay
 - self-belay
 - belay devices:
 - assisted locking
 - inline
 - plate
 - figure 8
 - tubular
 - improvised
- types of equipment and knots used, and how to tie them, when:
 - attaching belay equipment to self
 - attaching belay system to anchors
 - attaching self to back up belay system for self-belays
 - attaching self to anchor
- types of personal and equipment safety checks completed prior to climbing and belaying
- laddering techniques and appropriate posture for:
 - descending and ascending caving ladders
 - resting on ladders
 - self-belayed ladder descents and ascents
- techniques for belaying others during ladder climbs in caves to include those for:
 - establishing belaying position for effective and safe use of belay system
 - rope handling and maintaining adequate rope tension
 - arresting climber falls
 - securing climber, tying off belay system and releasing
- reasons for attaching belayer to anchor system when belaying others including:
 - minimising belayer movement to retain stable position and stance

- minimising effects of force of climber fall and risk of injury to belayer
- minimising risks of belayer fall
- communication protocols used between climbers and belayers in caves to include:
 - calls
 - hand signals
 - whistles
- typical hazards associated with vertical laddering in caves, and techniques used to safely negotiate these:
 - water pools, streams and seepage
 - falling rocks, water, debris, gear
 - abrasion points
 - sharp edges
 - vertical squeezes and overhangs
 - strong cave breezes
 - darkness
 - rising waters
 - rope and ladder tangles
 - broken or damaged rungs
- how to care for laddering equipment during activities to avoid damage, and promote long lifespan
- techniques used to minimise damage to the cave environment when descending and ascending caving ladders.

Assessment Conditions

Skills must be demonstrated in a natural cave where ladders are used as part of recreational caving activities.

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

- first aid equipment
- communication equipment for emergency response
- rescue equipment.

Assessment must ensure use of:

- participants with whom the individual interacts during caving activities
- personal protective equipment to include:
 - gloves
 - caving helmets
 - headlamps
 - harnesses
- anchors which can include:

- fixed artificial
- naturally occurring
- artificial removable
- laddering equipment to include:
 - carabiners
 - maillon rapides
 - rope which can include static and or dynamic rope
 - tape or sewn sling
 - caving ladders
 - personal attachment systems, including cow's tails
 - Prusik cords
 - mechanical ascenders
 - descending devices
 - belay devices
- template safety checklists
- organisational safety and emergency response procedures for caving activities.

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 caving leader, guide or instructor, where they have applied the skills and knowledge covered in this unit of competency; the three years' experience can be part time or full time experience.

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