Australian Government

Assessment Requirements for SISOABS005 Establish ropes for single pitch abseiling on artificial surfaces

Release: 1

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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:

- select and set up belay systems and ropes suitable for single pitch abseils on artificial surfaces for three different pitches
- collectively set up the following types of systems:
  - single rope
  - releasable abseil line
  - top rope top belay
  - bottom brake belay
  - self-belay
- collectively select and use at least three different types of anchors
- collectively select and tie at least four different types of knots suitable for the system type established, and appropriate for the intended load and function
- identify and tag three different types of faulty equipment.

Knowledge Evidence

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

- organisational procedures for safety and serviceability checks
- how the following factors affect selection of descent and ascent routes for artificial surfaces:
  - season of operation, weather and environmental conditions for outdoor abseils
  - participant characteristics including age, size, weight, fitness and abseiling skill level
  - group objectives and size
- hazards specific to abseiling on artificial surfaces and how these affect:
  - safe access to and egress from the pitch
  - choice of descent and ascent routes for safety of abseiler
  - positioning of top or bottom belay systems for safety of belayer
- features, functions, advantages and disadvantages of different types of anchors applicable to fixed or portable artificial abseiling structures:
  - bolts

- chains
- bollards
- eyelets
- U bolts
- beams
- poles
- wire cables
- single point anchors, multi-point anchors, angles and limiting knots

- issues that are assessed when selecting anchors and likely impacts of poor condition on performance under load:
  - wear and abrasion due to age and use
  - corrosion
  - decay
  - dislodgment
- meaning of the following terms, and principles which apply when rigging anchors and ropes:
  - equalisation of load
  - single point of failure
  - anchor redundancy
  - angle of separation
  - shock loading
  - cross loading and cyclical loading of carabiners
  - mis-alignment of carabiners
- types of forces (upwards, downwards) generated during abseiling and belaying, and how to calculate load on anchors and ropes for these circumstances:
  - top rope top belay
  - bottom brake belay
  - self-belay
  - abseiler descending under control
  - abseiler fall
  - belayer arresting falls
- the effects of rope stretch during operations and implications if not minimised:
  - abrasions
  - rope bounce
  - undue stress on the anchor system
  - potential for abseiler to impact with hazards, or become entangled
- features, functions, advantages and disadvantages of the following abseiling and belay equipment used on artificial surfaces:
  - abseiling and belay systems for:
    - single rope

    - releasable abseil line
    - top rope top belay
    - bottom brake belay
    - self-belay
  - descending devices:
    - assisted locking
    - inline
    - plate
    - figure 8
    - tubular
    - improvised
  - belay devices:
    - assisted locking
    - inline
    - plate
    - figure 8
    - tubular
    - improvised
  - carabiners
  - harnesses of different types
  - static and dynamic rope and when each might be used
  - rope protectors
  - tape
  - sewn sling
  - Prusik cord
- how the following factors affect the selection and rigging of above equipment:
  - site characteristics including position of rub points
  - weather and environmental conditions for outdoor abseils on artificial surfaces
  - participant size, weight, and abseiling ability
  - cumulative load for group size and number of abseils
  - abseiling techniques to be used
  - distance, height and angle of anchor relative to top edge of abseil
- manufacturers' specifications for equipment use
- techniques used to establish belay systems for safety of belayer:
  - rigging belays for performance of rescues
  - attaching to anchor or self belay safety system
- situations requiring back up belay systems
- when different knots are used, 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
- types of safety checks completed for rigging of equipment
- how to care for abseiling equipment when rigging to avoid damage, and promote long lifespan.

Assessment Conditions

Skills may be demonstrated in an indoor or outdoor environment where rigging is completed for recreational single pitch abseils on artificial surfaces. These can include fixed or portable structures.

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:

- personal protective equipment to include:
  - abseiling or climbing helmets
  - harnesses
  - gloves, as required
- established anchors for the artificial structure
- abseiling equipment to include:
  - carabiners
  - rope which can include static and or dynamic rope
  - rope protectors
  - tape or sewn sling
  - Prusik cords
  - descending devices
  - belay devices
- template safety checklists
- organisational procedures for safety and serviceability checks.

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

- have a collective period of at least three years' experience as an abseiling activity leader or rigger, 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.

Links

Companion Volume Implementation Guides - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1ca50016-24d2-4161-a044-d3faa200268b