

# SKILLS ASSESSMENT CHECKLIST - Lead climbing (Multi-pitch)

Statement of Attainment will consist of the following units of competency (from SRO03)

SROABN001A	Demonstrate simple abseiling skills on natural surfaces
SROABN003A	Apply single pitch abseiling skills on natural surfaces
SROABN005A	Apply multi pitch abseiling skills on natural surfaces
SROABN004A	Establish ropes for single pitch abseiling on natural surfaces
SROABN006A	Establish ropes for multi pitch abseiling on natural surfaces
SROCLN001A	Demonstrate simple climbing skills on natural surfaces
SROCLN002A	Apply climbing skills on natural surfaces
SROCLN003A	Establish belays for climbing on natural surfaces
SROCLN004A	Apply lead climbing skills on natural surfaces
SROCLN005A	Apply multi pitch lead climbing skills on natural surfaces
SROCLN003A	Establish belays for climbing on natural surfaces
SROVTR001A	Perform vertical rescues
SROVTR002A	Perform complex vertical rescues



Course start: \_\_\_\_\_ Course finish: \_\_\_\_\_

Assessor: \_\_\_\_\_

Location: \_\_\_\_\_

**Students**

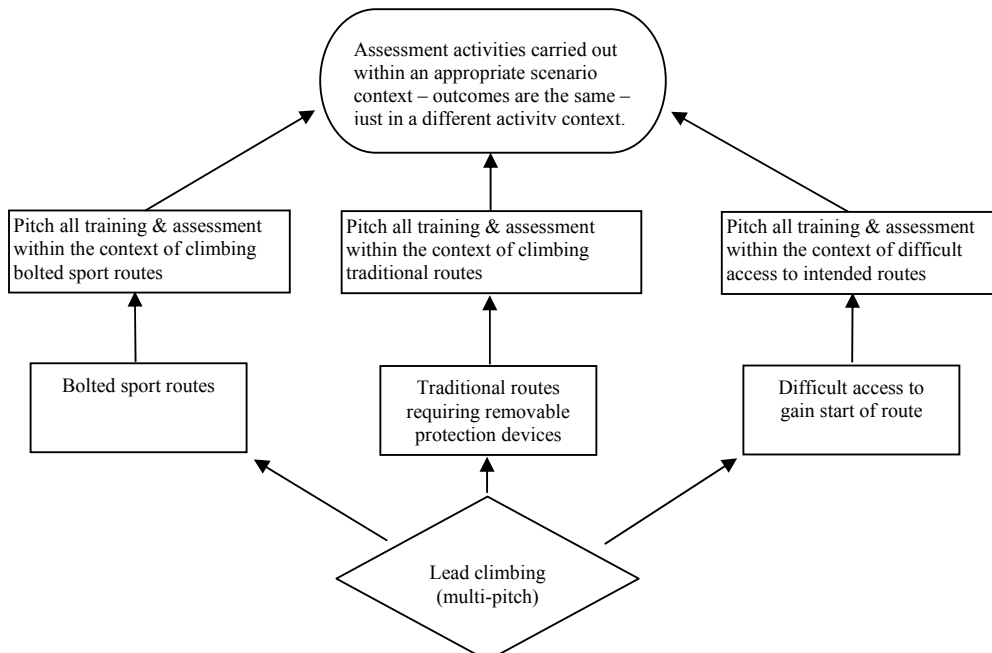
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|----------|----------|----------|
| 1. _____ | 2. _____ | 3. _____ |
| 4. _____ | 5. _____ | 6. _____ |
| 7. _____ | 8. _____ |          |

**Units of competency:**

All units of competency required to obtain a statement of attainment are listed in the table above. Units are not assessed individually; they are grouped together (holistically) for assessment purposes. All performance criteria associated with a particular unit must be successfully achieved – visit the NTIS website at [www.ntis.com.au](http://www.ntis.com.au) for specific details of each unit.

**Method of assessment:**

Trainees will be required to locate a multi-pitch route using a climbing guide-book and prepare for the climb. Trainees will select and organise their removable protection devices (ie a 'rack') to facilitate quick access. Trainees may work in pairs or in a maximum group size of 3. Each trainee will lead at least 3 multi-pitch routes – with each route having a *minimum* of 2 pitches. Trainees may alternate leads with each other – thereby providing an opportunity to climb as both leader and second. PACI requires trainees to attempt at least Australian grade 14 – routes should preferably be attempted on-sight. Assessment strategy will include a combination of observation, oral questioning and written examination. No assistance or guidance can be given during the assessment – students will work as a climbing team (ie leader & second) in the application of their skills.



## Course data sheet:

Nominal duration:	Outdoor contexts = 3 days (28.5 hours) Indoor contexts = Not applicable (only single rope is used)
Training site:	<ul style="list-style-type: none"><li>● Access to a natural cliff is required for all outdoor contexts</li><li>● Cliff must offer a variety of multi-pitch routes that can be traditionally climbed using removable protection devices (eg wired nuts and cams). Exception: Bolted sport routes.</li></ul>
Entry requirements:	<ul style="list-style-type: none"><li>● Competency in lead climbing (single-pitch using a single rope)</li><li>● Competency in top rope climbing</li><li>● Competency in abseiling</li><li>● Competency in rescue techniques</li></ul>
Student ratio:	3:1 – three students to one instructor <i>NOTE: PACI does not recommend that more than 3 students are booked on one course.</i>
Cost:	Based on business overheads and profit margin to remain a viable business (need to factor in staff wages, equipment wear & tear, travel to site, office admin etc)

Typical sequence of training: (schedule may vary)

### Day 1: Theory

- Welcome and intro
- Review exams (students should have completed their exams prior to course commencement)
- Review knots
- Discuss benefits / disadvantages of using double ropes

### Practical

- Climb a single-pitch route using double ropes (instructor to closely monitor from adjacent fixed rope using mechanical ascenders)
- Setup a double rope belay system using a 'cordalette' anchor (at top of single-pitch route)

#### **Formative assessment activity:**

1. Climb a 'trad' route using double ropes and place all gear while leading
2. Double rope management skills - avoid rope drag
3. Ascend a route as a 'second climber' (using double ropes)
4. Belay a climber using double ropes
5. Appropriate use and response to climber safety calls
6. Review of rescue skills (depends on 'currency' of students skills)

### Day 2: Practical component only

Multi-pitch lead climbing skills development:

- Continuation of lead climbing using double ropes
- Climb a multi-pitch route (must have 2 or more pitches)

#### **Formative assessment activity:**

1. Climb a multi-pitch 'trad' route using a double ropes and place all gear while leading
2. Double rope management skills - avoid rope drag
3. Establish a belay system in a suitable position at an intermediate belay ledge
4. Manage double ropes at the belay position (recommend use of slings to arrange ropes)
5. Ascend a route as a 'second climber'
6. Appropriate use and response to climber safety calls
7. Abseil descent using double ropes (eg used for escaping from a completed route)

Day 3: Practical + final assessment

Early start recommended!

[ ] Continue to develop practical multi-pitch lead climbing skills...

**Final assessment**

Climb at least 2 consecutive pitches of a multi-pitch 'trad' route from the ground up placing all protection on the lead – where possible, assessment should be on a route the student hasn't climbed before (ie an on-sight attempt).

**NOTE: Instructor must confirm that students are in fact ready for assessment.**

The following skills are holistically captured in this assessment activity:

1. Selecting a multi-pitch route using a guide-book
2. Preparing to lead (ropes stacked/flaked, selecting and organising rack, tying in, etc)
3. Avoiding the 'zipper effect'
4. Response to climbing safety calls (eg 'Is that you?' / 'That's me!'; 'Take in'; 'Slack', 'Watch me!' etc)
5. Climbing skills (eg the ability to link a sequence of moves / finding rests etc)
6. Installing a fall-protection system using double ropes (ie placing removable protection devices)
7. Rope management – double ropes – 2 different colours
8. Belay skills – using a 'cordalette' anchor at intermediate belay stances
9. Climbing as a 'second' including the use of a nut tool

Ensure all students are capable of carrying out a rescue procedure:

This skill should already have been taught as part of the lead climbing (single-pitch) course.

Scenario: Leader fall beyond half-way point of rope – ie more than 25m out from belay

Note: For assessment purposes, the rescue can be staged on a smaller cliff to enable better instructor control.



1. Assess situation & escape the belay



2. Approach to patient



3. First aid & preparation of patient for descent



4. Extrication and abseil descent to safe ground

Note to assessor: A tick placed in each box indicates that competency has been achieved.

SKILL	Student 1	Student 2	Student 3
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1.0 Risk assessment (assessed through observation of trainees actions and by oral questioning)

1.1 Assess potential hazards and risks associated with attempting the multi-pitch route (not necessary to document in written form)			
1.2 Make decision if intended route is within personal limitations – proceed or not proceed?			

2.0 Knots (knots are assessed while used within a wider practical application – they are not assessed individually) – PACI philosophy is to limit the amount of knots to learn to ‘need to know’

End line knots

2.1 Figure 8 on-the-bight (end line knot)			
2.2 Rethreaded figure 8 (end line knot)			
2.3 Adjustable double figure 8 (end line knot)			

Joining knots

2.4 Double fishermans knot (rope joining knot)			
2.5 Tape knot (flat webbing joining knot)			
2.6 Square fishermans knot (easier to untie after loading)			

Mid line knots

2.7 Clove hitch (mid line knot)			
2.8 Alpine butterfly knot			

Friction hitches

2.9 Italian / Munter hitch (belay hitch)			
2.10 Prusik knot (using cord)			
2.11 French prusik (using cord)			

3.0 Anchor/belay systems (assessed over at least 3 routes within a wider scenario context – ie. using a variety of anchor points, ii. a top belay anchor system & iii. an anchor system suited for belaying on a multi-pitch climb)

Note: Assessment is contextualised to suit the trainees workplace and/or recreational needs.

3.1 Selected knots used within the anchor system are suitable for the type of application intended			
3.2 Coil and uncoil rope (advise using an alternating coiling method)			
3.3 Identify, select and use <u>natural</u> anchor points (e.g. trees, boulders, rock features – eg chock stones, threads etc)			
3.4 Identify, select and use <u>artificial</u> bolt/piton anchor points – <i>where they exist*</i>			
3.5 Insert removable protection devices to create a solid & reliable anchor system (cams, wired nuts etc) – <i>climbing contexts only – if relevant*</i>			
3.6 Select & use a range of locking and non-locking carabiners			
3.7 Accurately position and align anchor system to optimise for intended trajectory of forces			
3.8 Link individual anchor points to equalise and distribute forces within the anchor system			
3.9 Install an anchor system suited to an <u>abseiling</u> application			
3.10 Use a ‘cordalette’ to configure and equalise a 3 point anchor system (7m x 6-7mm accessory cord tied into a loop)			
3.11 Extend the length of the original completed anchor system to a position close to the edge of the cliff (in top belay context) – <i>this skill typically applies to anchor systems built using a cordalette where no anchor points were in close proximity to the edge</i>			
3.12 Completed anchor system is capable of sustaining the anticipated loading			

SKILL	Student 1	Student 2	Student 3
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### 3.0 Anchor/belay systems (continued)

3.13 Build a solid & reliable belay anchor system within a restricted space on a ledge in a multi-pitch climbing environment ( <i>not a hanging belay</i> )			
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### 4.0 Abseiling skills (pitched in the context of climbing – eg to access the start of a route and then climb back up)

4.1 Fit & adjust harness in accordance with manufacturers instructions			
4.2 Inspect rope to ensure fitness for use (can best be achieved while coiling the rope)			
4.3 Install and accurately position a solid & reliable anchor system to enable abseil access			
4.4 Announce intention to deploy rope by shouting appropriate warning call			
4.5 Deploy a rope for abseil access purposes – stopper knot must be tied in end – must deploy tangle free and confirm fully extended to ground – technique must be suited to current situation (eg strong wind)			
4.6 Perform personal safety checks prior to initiating abseil descent (eg using ‘ABCDE’ method)			
4.7 Configure and descend with a ‘ <u>planular</u> ’ device (eg sticht plate) – <i>if relevant*</i>			
4.8 Configure and descend with a ‘ <u>tubular</u> ’ device (eg ATC, Pyramid, Bug etc) – <i>if relevant*</i>			
4.9 Configure and descend with an ‘ <u>auto-locking</u> ’ device (eg Gri Gri, Stop, etc) – <i>if relevant to learners needs eg climbing &amp; indoor contexts – not suitable for double rope climbing*</i>			
4.10 Configure and operate a self-belay system to safeguard against loss of control during descent			
4.11 Maintain balance, speed control & situational awareness throughout the descent			
4.12 Descend in a straight line path relative to anchor system and edge (avoid diagonal descent/pendulum effect)			
4.13 Negotiate obstacles and uneven surfaces without losing balance and control.			
4.14 Lock-off then resume abseiling during descent (lock-off must be performed from a fully suspended position by tying off device)			
4.15 Immediately halt descent by engaging self-belay system – release hands to prove operation			
4.16 Abseil with a self-belay system rigged <u>below</u> the descending device (eg attached to a leg loop)			
4.17 Install a retrievable abseil system – 2 ropes must be joined and deployed for the purposes of assessment			
4.18 Descend on a retrievable abseil system (double ropes)			
4.19 Retrieve abseil rope(s) from below, then re-deploy retrieved ropes for next pitch			
4.20 Complete a multipitch abseil descent – from the top of the route to the bottom – pitch length may be rigged to coincide with convenient ledge with suitable anchor points (eg tree, rock feature or abseil chains etc) -ropes must retrieve successfully at the end of each pitch in order to achieve competency			

**Caution!** Some accessory (prusik) cords are stiff and will not grip correctly when used as a self-belay – ie they could slip. Always ensure students confirm self-belay system is operative before committing to the descent. Accessory cord should be flexible and supple.

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### 5.0 Belay skills

5.1 Ensure climbing rope is free of twists and tangles before commencing climbing			
5.2 Tie a stopper knot in the free end of climbing rope to prevent accidental separation from belay device			
5.3 Safeguard a climber using a single rope belay system – <i>belay system and device will be relevant to the type of activity context – eg tube/plate</i>			
5.4 Safeguard a climber using a double rope belay system – <i>the belayer must be able to manipulate both ropes simultaneously</i>			
5.4 Maintain alertness and exercise due diligence while belaying – <i>assessed through observation of the belayers behaviour &amp; performance over the entire climb</i>			
5.5 Arrest lead climber falls promptly and without prior warning			
5.6 Escape from a loaded belay system – <i>trainees must be able to escape using only the resources on their harness and without the assistance from others</i>			
5.7 Interpret and promptly respond to safety calls in the manner intended ( <i>spoken in the English language using conventional Australian safety calls</i> ).			
5.8 Maintain control while lowering the climber – <i>avoid building up excessive speed or sudden jerks – follow instructions from climber!</i>			
5.9 Take appropriate measures to avoid losing control and/or balance when the climber falls – <i>this may be accomplished by additional anchors or by body posture</i>			
5.10 Belay 2 'second' climbers simultaneously on a double rope belay system from above. - <i>This technique is an important time saver when climbing in parties of 3</i>			
5.11 Coil and stack ropes while taking in as the second climbs – <i>ropes should be stacked in separate slings in a double rope system – must avoid entanglements</i>			
5.12 Build a solid & reliable belay anchor system within a restricted space on a ledge in a multi-pitch climbing environment (not a hanging belay)			

SKILL	Student 1	Student 2	Student 3
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### 6.0 Climbing skills

6.1 Interpret a climbing guide book and relate a route description to the features observed on the cliff			
6.2 Select and locate a route suited to lead climbing – <i>there must be protection available otherwise it may be too risky to attempt</i>			
6.3 Maintain situational awareness while climbing and frequently observe feet to ensure accuracy in foot movement – <i>climbing requires precise foot movements – many novice climbers only look up and focus their attention on their arms – training &amp; assessment should aim to improve the overall attention to footwork</i>			
6.4 Demonstrate a ‘no-hands’ rest while climbing			
6.5 Maintain balance and control during climbing			
6.6 Link a series of controlled moves together to reach the next rest position			
6.7 Communicate instructions to the belayer using Australian conventional safety calls – <i>(eg “watch me”, “lower me”, “take-in”, “slack” etc)</i>			
6.8 Demonstrate ability to stay on route – ie not wandering off route or getting lost. <i>Route finding skills are an important factor in multi-pitch lead climbing (or any big wall climbing)</i>			

SKILL	Student 1	Student 2	Student 3
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### 7.0 Installing the fall protection system (protecting a route)

7.1 Tie a climbing rope directly to the harness system (follow manufacturers instructions) in preparation for climbing – <i>PACI requires outdoor climbers to avoid using a 'clip in system'</i>			
7.2 Check & stack (flake) ropes in preparation for lead ascent – <i>rope must feed out without tangling</i>			
7.3 Insert protection at planned intervals to avoid a ground-fall or contact with a ledge in the event of a fall – <i>never create a situation where there is only one piece between the climber and the ground, particularly when making a difficult move</i>			
7.4 Budget on protection to allow adequate margin for safety to reach the next belay – <i>avoid running out of gear before reaching the next belay</i>			
7.5 Minimise rope drag through strategic placement of protection and use of extension slings			
7.6 Locate potential cracks where removable protection devices can be inserted – <i>while in the act of lead climbing</i>			
7.7 Select and insert the most appropriate protection device that would provide the best fit into the identified crack – <i>chosen from a number of pieces which are carried on the harness and/or a gear sling – training &amp; assessment should aim to improve the climbers ability to make a correct choice the first time without making multiple failed attempts to insert a piece of protection – can only hang around for a limited time before fatigue sets in</i>			
7.8 Insert protection devices with one hand (must be capable of using either hand)			
7.9 Insert passive protection devices (eg wired nuts)			
7.10 Insert active protection devices (eg cams)			
7.11 Install 'anti-zipper' to prevent likelihood of zipper effect occurring ( <i>ie, the initial protection at the start of the route must be capable of withstanding a sudden outwards and/or upwards force</i> )			
7.12 Use a nut tool to remove stuck protection devices			
7.13 Handle protection devices without dropping them			
7.14 Adequately protect traverse sections to avoid exposing the second climber to a potential pendulum fall			
7.15 Use a portable bolt bracket ( <i>there are still many routes in Australia that have old style 'carrot' bolts</i> )			
7.16 Clip a climbing rope into protection using one hand (both left & right) – <i>without fumbling or dropping the rope – must succeed 1<sup>st</sup> time</i>			
7.17 Maintain a left and right orientation in a double rope climbing system – <i>do not allow the climbing ropes to become crossed – ropes must be different colours</i>			
7.18 Clip ropes alternately to protection in a double rope climbing system – <i>exploit the benefits of double ropes when traversing or when making difficult clips above protection – seek the advice of the belayer if in doubt</i>			

*Note: It can take years to develop a persons climbing technique – rather like it could take years to develop gymnastic skills. Training and assessment should aim to develop a basic set of techniques that are universally applicable. The author of this checklist has been climbing regularly for 21 years and is still perfecting his technique! Trainees should not expect to climb high grades on their first try or indeed in the time frame of the course.*



SKILL	Student 1	Student 2	Student 3
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### 8.0 Rescue skills

8.1 Determine the need to provide an assisted hoist procedure ( <i>the climber will inform the belay person that s/he cannot proceed...</i> )			
8.2 Implement an assisted hoist procedure to haul a climber over a difficult 'crux' section – <i>performed while top belaying the climber – will involve a number of 'enabling' sub steps such as tying off the belay device and installing an 'anti-return'.</i>			
8.3 Retreat from a position more than one half the length of the rope above the belay – <i>assessor can simulate distances for control &amp; observation purposes</i>			
8.4 Demonstrate ability to retreat via an abseiling procedure in the event of difficulties or unexpected circumstances (eg approaching bad weather)			