

# SPPR 1832

# OUTDOOR EDUCATION

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# Abseiling / Repelling



# Introduction

- Abseiling = to rope down / is the process of descending on a fixed rope.
  - It is also known as:
    - **rappelling** (America)
    - **roping down**
    - **roping**
    - **seiling**
- Australia

# History

- The origin of the abseil is attributed to Jean Esteril Charlet, a Chamonix (mountain in France) guide.
- Charlet originally devised the technique of the abseil (or rappel) method of roping down during a failed solo attempt of Petit Dru (mountain in France) in 1876.
- This was the first known use of a rope to abseil.
- After many attempts, some of them solo, he managed to conquer the Petit Dru in 1879, the company of two other Chamonix guides, Prosper Payot and Frédéric Folliguet, whom he hired (a rather paradoxical move for a guide) perfected the abseil.
- Jean Charlet is known for the first winter ascent of Mount Blanc in 1872 with Isabella Straton.

# Equipments

- [Helmets](#): to protect the head from bumps and falling rocks. When needed, the primary light source is mounted on the helmet in order to keep the hands free.
- [Gloves](#): protect hands from the rope and from hits with the wall. Are mainly used by recreational abseilers, industrial access practitioners, adventure racers and military as opposed to climbers or mountaineers. In fact, they can increase the risk of accident by becoming caught in the [descender](#) in certain situations.
- [Boots](#) or other sturdy footwear.
- [Knee](#)-pads (and sometimes [elbow](#)-pads) are popular in some applications for the protection of joints during crawls or hits.

# Equipments

- [Ropes](#) used for descending are typically of kernmantel construction, with a multi-strand core protected by an abrasion-resistant woven sheath. For most applications, low-stretch rope (typically ~2% stretch when under the load of a typical bodyweight) is used to reduce bouncing and to allow easier ascending of the rope.
- A [harness](#) is used around the waist to secure the descender. It should be comfortable if you are planning on spending many hours hanging from it while descending.

# Equipments

- Descender is a device or hitch which is designed to allow for rope to be paid out in a controlled fashion, under load, with a minimal amount of effort being expended by the person controlling it.
  - Some mechanical descenders include braking bars, the figure eight, the abseil rack, the "bobbin" (and its self-locking variant the "stop"), the gold tail, and the "sky genie" used by some window-washers and wildfire firefighters.
  - Some improvised descenders include the Munter Hitch, a carabiner wrap, the basic crossed-carabiner brake and the piton bar brake (sometimes called the carabiner and piton).

# Methods

- All abseiling should be performed under the supervision of trained and experienced people.
- Abseiling should never be undertaken alone, due to the risky nature of the activity and the fact that another person may be required to effect a rescue should someone become trapped or incapacitated.
- Abseiling is viewed by climbers as being more dangerous than climbing, as the rope system is taking the weight of the practitioner constantly rather than only in the event of a fall. Indeed, a high percentage of accidents classified as "climbing accidents" actually occur when abseiling.
- The simple method is for the main rope to be attached to an anchor of some description, thereby providing a fixed line running down the path along which the abseil will take place.



# Methods

- The abseiler then attaches themselves to the main rope, by connecting the descender (in accordance with the manufacturer's directions) to the rope, and then attaching the descender to their harness through the belay loop or other attachment point.
- In accordance with industry best standards, a belay should be employed to back-up the abseiler on their descent. This may be in the form of a [self-belay](#), a top-belay or a [fireman's belay](#).
- Prior to loading the rope with their weight, the abseiler should perform the following safety checks:
  - **Anchor** - Is the rope securely anchored and backed-up (if required).
  - **Buckles/Belay** - Are all the buckles secure? Is there a belay in place?
  - **Carabiner** - Are all the carabiner gates closed and secure?
  - **Device** - Is the descending device rigged correctly?
  - **Everything Else** - Is my helmet on? Are my gloves on?

# Methods

- The abseiler then holds the main rope, below the descender, in their favored hand, positioning this hand at, or behind their hip on the same side of their body. This is now referred to as their *brake hand*.
- The abseiler then test-loads the rope to make sure that everything is connected and rigged correctly. Once checked the abseiler moves towards the edge of the abseil, keeping the line between themselves and the anchor under load.
- The kind of surface being abseiled on, the details of the edge and other considerations will dictate how the abseil is started.
- Once over the edge, the abseiler controls the speed of their descent by increasing or decreasing the amount of friction being applied to the rope with their brake hand.

# Methods

- After reaching the end of the abseil, the abseiler derigs their descender. Dependent on the type of descender being used, the length of the abseil and the speed with which it was covered, the descender may be hot (due to the friction experienced). As the rope is made from plastic it should be disconnected as quickly as possible to avoid damage to the rope. Also, care should be taken to ensure that the abseiler does not burn their hands in doing so.
- In applications where abseiling is used to pass an obstacle on the way to a destination (such as multi-pitch abseils) a lightweight retrieving line or *reepschnur* may be used for releasing or pulling down a rappel rope from the anchor point once all climbers have reached the bottom of a pitch, thus permitting a longer rappel (the entire length of the rope rather than half).

# Application

- Abseiling is used in a number of applications, including:
  - [Rock climbers](#) returning to the base of a climb or to a point where they then try a new route. Note: in many areas this is frowned upon. In some, it is banned [\[1\]](#).
  - Recreational [canyoners](#), who travel down mountainous watercourses where waterfalls or cliffs may need to be descended and simply jumping is too dangerous or impossible.
  - Recreational [caving](#), where underground [pitches](#) are accessed using this method ([Single Rope Technique](#)).
  - [Adventure racers](#), whose events often including abseiling and other rope work.
  - Industrial/Commercial workers, who may use abseiling techniques to access parts of structures or buildings so as to perform maintenance, cleaning or construction. (eg window cleaners, railway scalers, quarry workers, etc.)
  - Access to [wildfires](#) or wilderness rescue/paramedic operations by rappelling from a hovering [helicopter](#).
  - Confined spaces access, such as investigating ballast tanks and other areas of ships.
  - [Rescue](#) applications, such as accessing injured people or accident sites (vehicle or aircraft) and extracting the casualty using abseiling techniques.

# Thinks to Consider

- Skill & experience
- Environment care
- Risk management
- Abseiling equipments
- Abseiling skills
  - Knots
  - Personal safety
  - Anchors
  - Client safety
  - Abseil setup
  - Abseil operation
  - Abseil Rescues
- Group management & Instructing