

# Snowdonia Mountain Guides

*Rock Climbing, Mountaineering and Hill walking Instruction, Coaching and Guiding in Snowdonia North Wales*

## ***Rope Rescue for Rock Climber's: A Beginners Guide***

This guide stemmed from a course, when a client wanted a workbook of sequential shots to explain the skills he had learnt on a 'Rope Rescue for Rock Climber's course, run by Mark Reeves and Snowdonia Mountain Guides. This booklet is a free PDF that hopefully shows the various sequences and skills needed to become at the very least aware and maybe even more confident as to how to go about self rescue if the unfortunate happen to you or your climbing partner.

It is hoped that by following and practicing the skills covered in this booklet that you will be able to perform some basic rescues. At the very least as a climber you need to be able to perform the first skill covered, tying off a stitch plate. A much better way to learn these skills is to come on a Rope Rescue Course for Rock Climbers with Snowdonia Mountain Guides.

### ***Locking Off a Belay Plate***

Locking off a belay plate is a vital skill in rope rescue, as all rescue start with this step, as it does two things, it frees up your hands, and gives you time to think about what you are going to do next. It is important to remember that when practicing this skill to do so at first on the ground, then try getting a climber on a top rope to climb up until they are a few feet off the ground, and weight the rope, then try to tie off the stitch plate and release it without the climber dropping to the ground.



1. Lock off the belay Plate



2. Pass a loop through the back bar



3. Pass a loop through that loop, and pull towards the belay plate.



4. Pull that loop out to an arms length.



5. Use that loop to tie two half hitches on the back bar.



6. The tied off stitch Plate

<http://lifeinthevertical.co.uk/blogs/smg/>

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## **Releasing a Locked Off a Belay Plate**

Essentially this is just reversing the process of tying of the belay plate, however there are some extra considerations to bare in mind, especially when the plate is weighted as you go to release it. It is vital you master this skill on the ground with the rope slightly weight, before you move onto try and do this with the rope fully weighted.



1. Stage one is to untie the two hitches that finished the tying off procedure. Remember that you must keep a hand on the rope at all times. When you get to the situation shown above, lightly pull the rope, and one of the ropes making the loop will move, the other won't. Grab hold of the one that doesn't move as close to the belay plate as possible.

2. Pull, the rope out of the loop gently, until there is only a small loop left, making sure you are firmly gripping that small loop. From here set up for the last move, that is best described as a 'tablecloth trick move'. As to stop rope slipping through the belay plate as you perform this last move, you must quickly and sure, jerk the final part of the loop out, moving you hand to instantly lock off the rope.

3. Remember when you have untied the stitch plate, you are now in control of the dead rope, and cannot let go.

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## **Hoists: Assisted and Unassisted**

A hoist is one of the easiest rescues to effect, they are good ways to get a climber who can't follow the crux of a route through either difficulty, or injury, and up to a ledge where you can consider what to do next, like abseil down, or if its the top of the crag walk off.

Before you go into a hoist consider if by crouching down, and taking in the rope, then standing up, you can make the rope extremely tight, and help the climber make the move without resorting to a haul.

If you have to haul then, there are a few key components, one locking off the belay plate to free up your hands. The next step is to create some form of progress capture, so as the climber ascends the progress they make, is collected by the system, so they won't fall back down, the third is to create some form of mechanical advantages to help make hauling an adult possible.

## **Progress Capture Systems**



1. Progress capture with a Tribloc



2. Alpine clutch



3. Auto-blocking - guide plate



4. Gri-gri



5. Progress Capture with a belay plate. This is often the most common form of progress capture, and is the one I recommend on my courses, as it is very versatile. It uses a french prussic, that will release when the rope is hauled up, and will lock the rope when the rope to the climber is loaded.

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## Hoists: Assisted

An assisted hoist is one that means that there is enough rope, and that the climber is also able to assist you in hauling them up, it is quick and efficient. There are several stages, 1. Lock off the belay plate. 2. Turn the belay plate into a progress capture. 3. Send a loop of rope down to the climber. 4. Release the tied off belay plate onto the progress capture. 5. Haul.



1. Lock-off the belay



2. Attach a french prussic in front of the belay plate to create a progress capture system.



3. Send a loop down to the climber, and get them to clip the loop with a carabiner.



4. Finally, carefully release the belay plate and lower the climber onto the french prussic. Take care to keep a hand on the dead rope. Then pull up on the rope come back from the climber, and tell them to pull on the rope coming towards them. As they climb the progress is captured by the prussic and if you get tired you and lower them onto the prussic.



## Hoists: Unassisted

If the climber can't assist you, or the rope isn't long enough for a loop to reach you can make an unassisted hoist by adding a klemhiest or standard prussic in front of the progress capture, and clip a loop through this, and haul.



## Hoists: More Mechanical Advantage

If you want to make it easier consider adding extra pulleys with a sling like show on the left. It turns the system from a 3 to 1 to approximately 5 to 1.

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## ***Escaping the System to a abseil rescue***

Escaping the system is one of the more complex rescues that you can do, and requires many additional skills. It can be used in conjunction with a hoist, so you can get more body weight behind the haul, although in the context we have put it here, we have treated it as a way to get down to and rescue an unconscious or injured second. To start off we are going to look at how to rig and abseil off a rope by making a Christmas tree rig. As this is a component that comes into this system twice, we are also going to go through this whole system when we have multiple anchors out of reach.

### ***The Christmas Tree Abseil***

Here we rig a abseil with just a rope whilst here we use the end of the rope later we will do the same with the middle to free up as much rope as possible. To achieve this pick two or more good anchors, and tie one end of the rope to an anchor with a figure of 8 to the further back runner. Then from below the next farthest away runner, pull a loop back to the runner, and tie an overhand knot, spend some time ensuring that both anchors are equally loaded. Repeat this process for all runners.

You will also need to be able to do this back wards, so clip a overhand on the bight into the nearest anchor with a large loop, then go back repeating this, and the last runner can then be tied off with a clove hitch. We use this in the escaping the system to an abseil, to both fix the injured climber to the belay and then rig an abseil of our own.



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## **Escaping the System to an Abseil: Tying off and Italian Hitch**

As well as rigging an abseil, and all the skills we had before, we also need to be able to tie off and release an Italian hitch, as this is used as a back up to the rescue system, as a general rule for all thing rope rescue, we never leave anybody, at any time suspended on a single prussic.



1. Tie an Italian Hitch



2. Make a loop in the dead rope and push a loop through it, making a slip knot round the live rope, and pull it back towards the hitch



3. Pull the loop out to make a long tail, and then tie off the hitch with two half hitches around the live rope.

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## **Escaping the System to an Abseil: The Sequence**

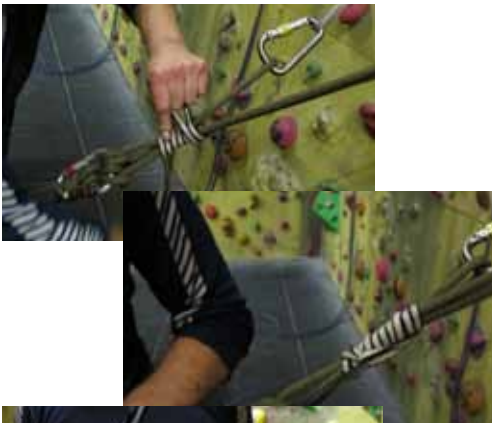
We now have all the components we need to try and go through this rescue stage by stage. I have tried to chunk some sections of the rescue together, so for instance rather than show you the whole sequence tying off the stitch plate, I start by saying stage one is to tie off the stitch plate.



1. Tie off the belay plate, this frees up your hands and gives you thinking time.



3. Attach a french prussic in front of the belay device and attach it to the end of the klemheist.



4. Attach a HMS carabiner to the knot that divides the tail of the klemheist and tie an Italian hitch to it with the dead rope coming out the back of the tied off belay plate and then tie off that Italian hitch. This is the back up to the prussic when we release the belay plate and load the prussic.



2. We no need to make a by-pass to the belay plate, we do this by putting a klemheist round all the ropes on the belay with a sling. We ideally have to use the sling, as it is rated to 22kn, and this is going to be a temporary belay. Once you have tied it push it up against the clove hitches, so it can't slip, and tie and overhand knot into the tail, this is going to relocate the belay.



5. Release the tied of belay plate, lower the tension on the prussic and then remove the belay plate from the system, the casualty is backed up by the Italian hitch.

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## **Escaping the System to a abseil rescue: Continued**



6. Release the tied off Italian hitch, take in all the slack and then re-tie off the Italian hitch.



7. Untie the Italian hitch and remove as much slack by tying a overhand on the bight with as big a loop as possible. Then remove the Italian hitch, the back up now is the Christmas tree rig direct onto the anchors.



7. With the dead rope coming out of the Italian hitch now tied off the climber by making a Christmas tree belay onto your original anchors



8. Now transfer the load onto the belay, by pulling on the french prussic, slowly. The rope should slide through and the load come onto the Christmas tree.

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## **Escaping the System to a abseil rescue: Continued**



9. Get another sling and make a Y-Hang belay, as a cowstail, and clip into the over-hand on the bight you created. You can then remove all the belay, and free up the end of the rope.



10. From where the rope comes out of the Christmas tree, created another Christmas tree belay, this is for you to abseil off.



11. Now rig an abseil on the Y-hang and abseil down to the casualty. Clip the casualty to the Y-Hang, and cut them off the rope they are onto, if you do it slowly the rope will stretch progressively until they eventually weight the Y-hang. Carry on abseiling to a ledge, or better still if the rope reaches the ground, and perform emergency first aid.