

BOLTING KIT.

Chris Curtis.

My bolting kit is a multipurpose one as it can be used for a few different purposes, such as:

- Recreational exploratory caving where some temporary concrete screws will be needed to check out a new section of cave.
- Recreational caving (or canyoning) where permanent glue in or expansion bolts will be installed.
- Rescue scenarios either for small team rescue (your own caving party) or a full scale requiring emergency services. The concrete screws or expansion bolts will be used for additional rigging requirements for haul systems, additional access lines, redirects, rebelay, etc.

Personally, I believe that all caving trips should have some kind of similar bolting kit as part of your clubs emergency plan. I have already had to use my kit three times for rescues and it has proven to be invaluable.

I take my bolting kit on all of my caving trips. The majority of the time I will leave it in the car if I don't think we will need it for exploratory caving. If the cave is a very long way from the car then it may be wise to leave it at the cave entrance.

I won't go into the details of bolting in this article, as it's a massive topic on its own.

Description of Kit (Photo 1).

1. The bag is a MTDE 5 litre. This can be either carried on a waist belt, a harness, or hung underneath a harness for SRT, with the cord with a snap link carabiner.
2. Chordless SDS drill. This is a Makita 18 volt rotary hammer with 10mm shank. I purchased it a couple of years ago and it was the smallest and lightest available at the time, and it is ideal for caving. I also have two spare batteries. The amount of spare batteries required (if any) will depend on how many holes are required, the size of the holes and the battery size. I have 5 amp hour batteries and one battery will drill twenty small holes, no problem. This drill has better drilling capabilities than a typical hammer drill and has the ability to be used as a chisel, which is really beneficial. I have a sling attached to it so I can hang it from my harness and not risk dropping it during drilling.

3. Spare carabiners. For use with bolt plates.
4. Yellow tape. This is either for general track marking in caves and/or for track marking to a cave. Track marking is crucial for emergency services who do not always know where a cave is or how to navigate through it.
5. Flexible hose. 500mm long and 4mm or 5mm in diameter. Used for blowing out dust from holes.
6. Concrete screws. 6mm diameter x 65mm long, minimum. Used for temporary anchors.
7. 10mm SDS masonry drill bits. Used for glue-in bolts. Rated at 200kg.
8. 10mm SDS flat chisel, 40mm wide. Used for either cleaning a rock face to create a flat surface for a bolt or breaking rock away.
9. 10mm SDS pointed chisel. Used for breaking rock away.
10. 10mm rachet spanner. Used for the concrete screws noted above. Don't use a typical spanner as they take too long to install. I am yet to attach a keeper cord.
11. Bolt plates. 40 degree stainless steel. This type of plate keeps the carabiner orientated the correct way for caving so as to keep the rope off the rock face. Typical climbing anchors are better suited for use with quick draws were it's not so much an issue. (Photo 2)
12. Petzl Sky Hook 2 Standard. Used as a self positioning tool when drilling holes.
13. Safety glasses, for obvious reasons.
14. Ear plugs. Drilling holes and chiselling is a noisy job!
15. 6mm SDS masonry drill bits. Used for concrete screws.
16. Cleaning brush. Making sure those nice new holes are clean.
17. Hammer. Checking the rocks before drilling.

JSSS



Photo 1: A Typical Bolting Kit. **Photo:** Chris Curtis.



Photo 1: Bolt Plates. **Photo:** Chris Curtis.