ROCK WORK & CLOSE IN TOOLS

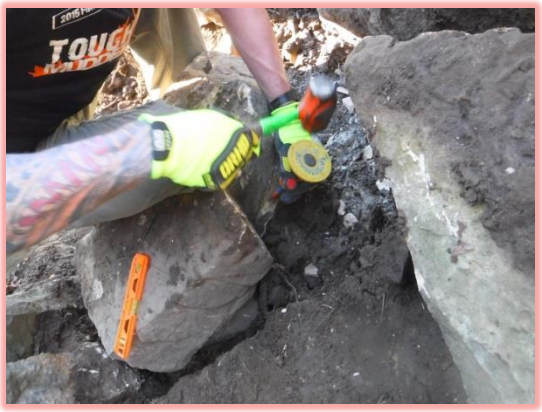
By: Bob Johnson 2017

Unmistakably, it seems CATS (Colorado Addicted Trail-builders Society) members find themselves on their knees with work. Literally and physically our members more often toil from a kneeling stance while working on close-in rock structures.

When it is determined that the trail requires rock/stone work of some varying degree, mostly in the middle of the tread, and/or the uphill or downhill side, there are very few options but to drop to your knees and work it up.

Before that happens, crew members assess the structure to be built. Is it necessary? Is it in the correct place? What will it do for the trail? Perhaps installation of several stone steps is required to gain elevation or stabilize the trail or a mono-wall to hold in the sloughing trail. It is important that the vision on how the project will look after completion is shared by the crew members.

Rock shopping, though not willingly executed by all, and in itself requires an eye for stone can be daunting. Assembling the samples brought down to the project site allows the rock setter to pick and choose the best stone for the project. Uphill shopping is obviously more advantageous than downhill retrieval. Large stones, sometimes referred to as 'BARs' (Big Ass Rocks) require several crew members to transport and position work well for stone steps, mono-walls, and retaining walls; the larger – the better in most cases. Large stones need to be solid and not move or wiggle after they are set. Thus BAR's offer more stability by their sheer weight and size. Chinking of small stones and dirt behind the step help even out the stone placement and provides firmness. Proper installation is required for a quality product that will be safe and long lasting.

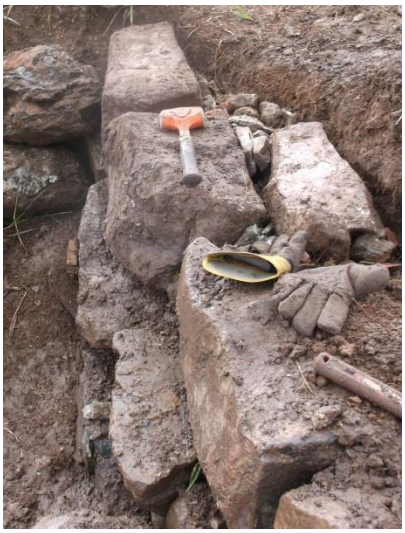


In the kneeling position the stone setter will need to dig out a tray or small or large pit that will accommodate the desired stone. Setting the first stone in the middle of the tread for steps or on the lower end of the critical edge for walls usually starts with the bottom stone as you should work uphill allowing gravity to aid in setting the stones. Any offsets can be adjusted at the top of the run of stones.

Before starting on any close-in rock work, all crew members in the immediate area will need to wear eye protection as a mandatory PPE (Personal Protective Equipment). Goggles or complete wrap eyewear is recommended due to the amount of rock shards that will fly in all directions.

Gloves and a knee pad of sorts will save hands and knees from injury.

Knee pads are always a welcome tool for protecting the knees whether on stone or bare ground; it is padding that shields the knees from injury. Young or old volunteers must make every effort to limit the traumas of kneeling on rock without proper protection. You can use those strap on plastic knee protectors or just use an old garden pad. I wrapped my garden pad with duct tape to preserve it because the pad itself takes some hard abuse and it is easy to hook to your pack with a carabiner. Gloves are essential for trail work and more so with rock work, as there is a greater danger in receiving smashed fingers. Leather gloves help protect fingers from cuts, scraps, and pinching effects from working with rock. Trousers are recommended for close-in work, as trail shorts do not protect the knees or legs. From personal experience, the author can attest that working on stone steps without a knee pad in shorts, was an unpleasant trail memory.

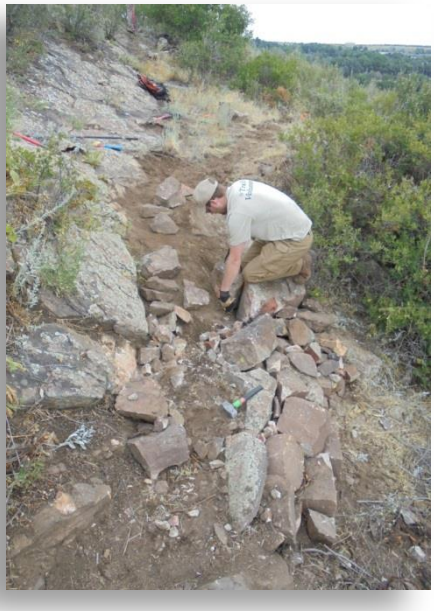


Returning to the first stone placement, I try to paint a picture for those to understand that setting stones as structures on the ground without a tray scooped out is like putting a bowling ball on an inclined driveway. The bottom stone step has to be set in firm. Stones have a tendency to move if not set in the ground secure. The movement is from natural causes, or from user impact that usually displaces the stones. Imagine the old ice cube tray in the freezer of a typical refrigerator. The tray is filled with water and ice cubes form later. The tray is the holder for the water. The stone step needs a tray or cup to set in.

Close-in work will require the ‘hand digger’. This tool is a wonderful tool to have handy. Actually, the hand digger can be described as a miniature pick mattock, but scaled down to do some quick work seating stone. The cupped portion scoops out dirt fast and the small pick

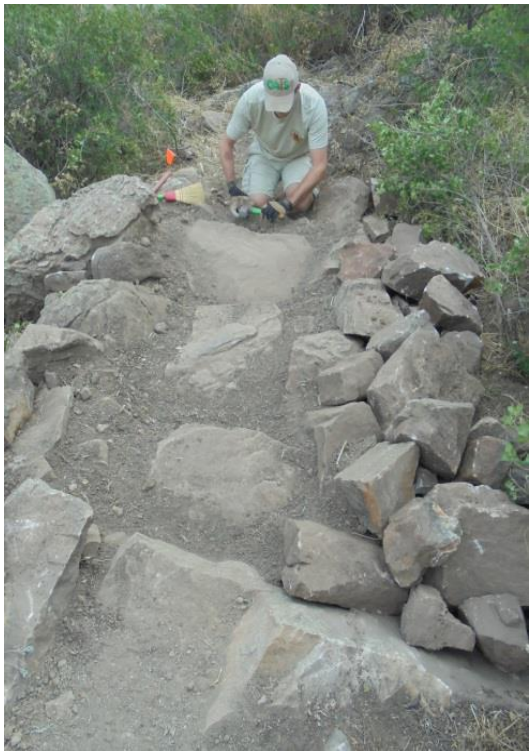
allows for some small amount of prying. The tool can be found on Amazon and is manufactured by Ames. Another interesting tool to have out there is a whisk broom – made of corn or synthetic materials. At first, most scoffed at having a 'pretty up' tool such as the broom. In fact, some thought I was the umpire cleaning off home plate as I brushed down the walls or steps. Whisk brooms help in many ways besides cleaning up the finished product for show. The broom keeps the stone setter on target with the design. Some walls have been covered up in their haste to be built and the alignment was off drastically. Cleaning as you go assists in keeping the vision clear on the wall or steps. Also the broom helps sweep dirt/scree into all cracks in the stones, thus helping to seal up the structure. Using your gloves will surely wear them out. Chisels are useful in cases where the stone needs adjustments in size/shape to make a better fit.

All your close-in tools should stay close to the stone setter; within arms reach - thus the two word description (close-in). A quick listing of the tools a stone setter should have available – hand digger, jack /sledge (long/short handled), whisk broom, chisels (when needed), string line and other personal tools. Other tools that are needed or required for moving stone but not considered close-in tools are: rock bars, rock carrying devices such as the Austin, shovels, pick mattocks, come alongs, gripe hoists.



Rock work goes in phases: the rock shopping, tray preparation, sizing and fitting of stone, placing, setting and then dirting. Stones can be assembled on the trail as the tray/bench/cup is cut in. Placing (not setting) the first three stones is recommended. Position the stones for the wall or step and if they are a good fit, then set the stones by 'chinking' behind the stone. That process involves smashing small stones into scree to help bind up the stone to the earth. Flat – skinny rocks are sometimes referred to as 'exploders' because they blow up with one whack of the Thor Hammer (heavier jack). After setting stone, then dirt it. I try to keep the saying going as, "Chink in the back, dirt in the front". The front is usually the downhill side of the stone project. Banging rocks in the front and back of a stone will only cause the stone to

move like on ball-bearings. Dirting is the final step that covers the chinking. I like to say “dirt covers all sins, and water washes them away”. It is a good practice to have enough fill to cover the underworkings of your project. Four to six inches of fill is a good start depending on your situation and rock structure.



Rock work with close-in tools is a work in progress and the best way to experience it would be to get on your knees and get dirty. Experience is the best teacher. Work with a rock specialist or someone that knows what they are doing and labor the stone. Stone work and using these tools correctly will give you confidence and self satisfaction, especially when the stone structures are finished and built correctly.