

How to build an anchor on a lead wall to set up a top rope or a fixed line:

- The same principles for building and anchor when trad climbing

- **SERENE**

- **Strong**

- all the components you use in the gym should fit this standard
- EX: hanger on a T-Nut with or without backing plate

- **Equalized**

- The force on each part of the anchor should be the same as any other part
- See diagram. In Figure B the force the anchor is holding is on the right hanger Rather than equally distributed

- **Redundant**

- Although a hanger on a nut is very strong it can still fail. You should always be on a minimum of two pieces of gear.

- **Efficient**

- Pieces that do not add to the strength of the anchor in a meaningful way should not be used. This is more of a concern in other contexts

- **No Extension**

- Should one of the two pieces break the center point to which the climber is attached should not change.
- See diagram. In figure C there is no hard point to which the top-rope or fixed line may be attached. If one of the fixed bolts were to fail there would be a change in weight distribution of the anchor which would place greater strain on the one remaining bolt.
- If one of the bolts in figure A were to fail the weight would remain at the same central hard-point and put less strain on the remaining bolt.



Fig A



Fig B



Fig C



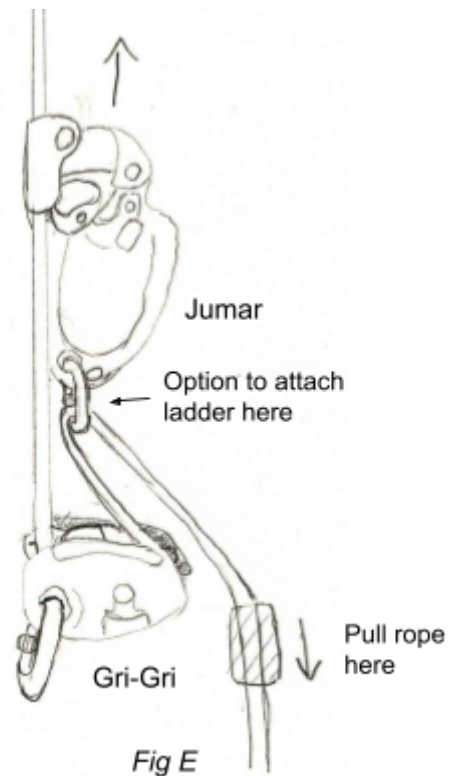
Fig D

IMPORTANT!

Gri-Gris devices are not considered Auto-Locking and can fail. They need to be backed up either by another device or by overhand on a bite knots tied below the Gri-Gri. They are more likely to fail if they take a dynamic load. **Do not take a dynamic fall on a Gri-Gri unless it is backed up.** When you are lead climbing on a Gri-Gri your belayer's hand is acting as a backup. **You should ideally understand a Gri-Gri as an ATC with extra steps.**

How to build a 2 to 1 using the Ascender or Jumar to “Jug” Up either a fixed line or a top rope:

- By building a 2 to 1 pulley system you can reduce the amount of weight you need to move up the rope. This system can also be used to make hauling large amounts of weight easier.
- The Jumar is placed above the Gri-Gri or auto-locking device and the rope that comes out of the Gri-Gri goes through a carabiner that is on the Jumar. A ladder or sling can be attached to the carabiner for you to stand in. See figure E.
- To move up the rope slide the Jumar up and then pull down on the rope coming out of the carabiner (indicated in the diagram).
- **On either a top-rope or a fixed line you should be tying overhand on a bite knots below you as you jug up so that if the Gri-Gri or other device fails you don't fall all the way to the ground.**



If you are using a top-rope rather than a fixed line there are a few things to consider:

- It is recommended that you use a PAS (Personal anchoring system) or a substitute such as a sewn sling to extend the carabiner side of the top-rope rather than attaching it to your belay loop along with the Gri-Gri. This will prevent the other carabiner from bumping up against your Gri-Gri and getting in the way.
- A top rope is already a pulley system that reduces your weight. The Jumar is less important in this instance.

How to “strip” rope walls:

- Options:
 - Ladder - This is the simplest method that requires the least gear, but Dyno-rock does not currently have a ladder that reaches to the top of any of the rope walls.
 - Bottom-up - You begin with the holds on the ground and progress up to the top of the wall. Although this is the most intuitive way to strip the wall it is inefficient if you're on a rope as you still need to be able to get to the top of the wall and if there are no holds the only other way is by “jugging” up which is a lot of effort.
 - Top-down - Start at the top of the wall and remove all of the holds as you self-belay down using a Gri-Gri or another device. This allows you to climb up the wall and is typically the best method.

Methods for taking a bucket with you when setting ropes:

- Hang the bucket below you on the rope
 - Pros:
 - It does not require an additional rope.
 - It makes tying overhand on a bite knots useful as you can hang your bucket from the knot. As you move up the rope you keep adding new knots that are right below you. This increases the redundancy of the system.
 - It adds weight to the bottom of your rope thus keeping it somewhat taught so if you're using some type of one-way pulley it will move more easily along the rope.
 - Cons:
 - Unless the bucket is on the ground the weight of the bucket will be added to your own body weight when moving up the wall.
- Hang the bucket on a fixed line next to you - it is recommended to have the bucket on its own Gri-Gri and have the rope coming out of the Gri-Gri clipped to your harness with a carabiner.
 - Pros:
 - The weight of the bucket isn't on you.
 - The bucket is less in your way.
 - It's simple to pull on the rope coming from the Gri-Gri that is clipped to your harness and bring the bucket up.
 - Cons:
 - You can't lower the bucket without taking it off of the Gri-Gri.
 - Breakdown is more complicated requiring you to remove the Gri-Gri from the bucket, lower it, and then take down the fixed line.