

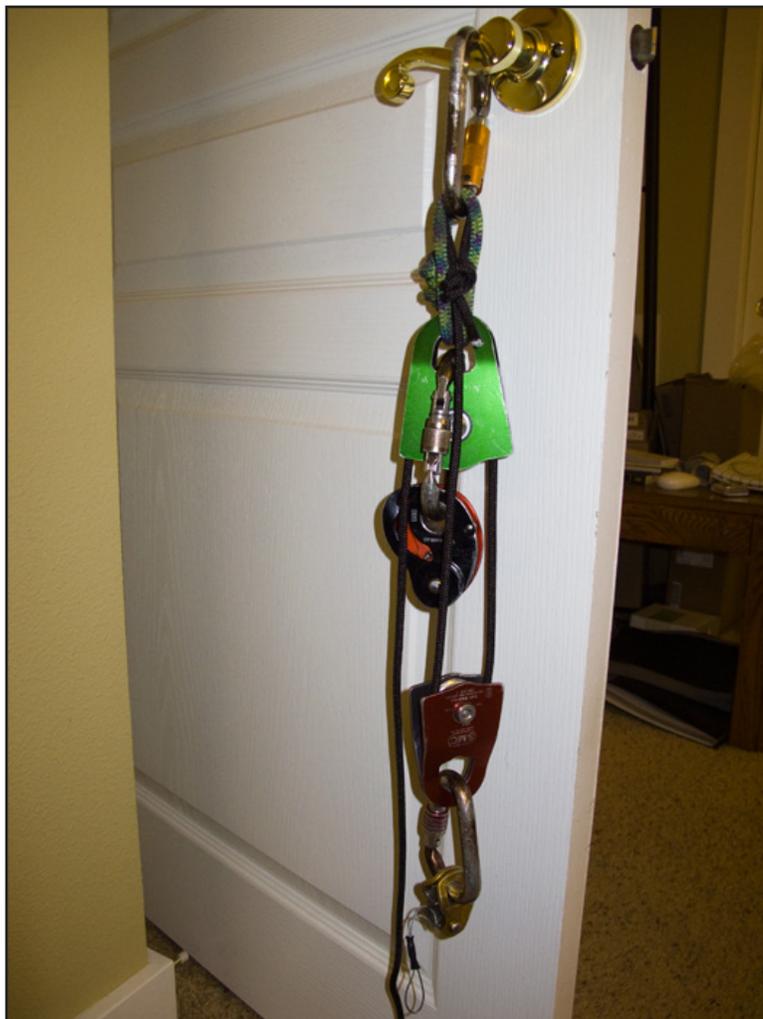
# BIG WALL TIPS by Mark Hudon

## 2 to 1 Hauling

### 2 :1 Hauling

Hauling used to be the worst part of a wall. Clothes and sleeping bags were heavy, and food and water haven't gotten any lighter in the past years. But I was young and willing to suffer to get up the climbs I wanted to do. Over the years though, pulleys have gotten better and systems were worked out to use mechanical advantage to haul heavy loads. I believe it was Chongo who devised the most commonly used 2:1 hauling technique in the mid 90s. Being much older now, not willing to suffer as much as I used to, and still desiring to climb El Cap I was delighted to find a method to haul the bags that did not require back breaking work and sore, worn out hips.

Pete Zabrok wrote a classic description of the 2:1 hauling method in an old Climbing magazine that is now available online at <http://www.climbing.com/print/techtips/ttaid228/>. I highly recommend reading his description and really trying to understand every word of it. A lot of people, I've found, give the system a half hearted try and discard it as being "too slow" or "too complicated" and even "I couldn't get it to work". Every part of it is critical and none of it can be done half heartily. I strongly recommend spending an afternoon at your local gym to working with it to understand its nuances and to work out all the bugs. On the left is a photo



of my 2:1 setup. I was trying to go light by using a Ropeman in place of a Basic but ended up not liking how it worked and changed back to the Basic.

Notice how I have a large biner *spanning* the green upper pulley. This is to keep everything in a nice straight line. With a 2 to 1 system, any force you put into the system is multiplied by two. That's why a little guy like me being 130 pounds can haul a 250 pound bag with relative ease. Don't forget though, your errors are also magnified by a factor of two. Your body has to move two inches to make up for one inch of slack in the system. If the Mini-Traxion was off to the side of the haul system even a little bit, you would have to move twice as far as it is away from the system before any force could be applied to moving the bags upwards. Believe me, you're going to spend enough time hauling that you won't want to waste any effort!

Starting from the top, I have a large BD Auto Locking Biner. Large and locker are about the only specifications for that biner. Next comes a doubled 7mil cord tied with a Double Fishermans knot. The purpose of this cord is to act as a Universal so that the green pulley can turn to the most efficient angle in relation to where the pull is

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coming from. If there was no Universal, the “Zed Cord”, the cord that runs through your pulleys, would grind on the edge of the top pulley and you would lose efficiency. The Zed Cord can be 5 mil Spectra cord, but be careful, Spectra cord is pretty delicate and can easily abrade and break on one route. There is a new kind out, I don’t know it’s name but it doesn’t stretch and resists abrading far better. You’ll want Spectra because it is strong and doesn’t stretch.

Both pulleys should be good ones. I use a larger 2” sheave (wheel) as my upper pulley. According to Pass the Pitons Pete the upper pulley contributes more to the efficiency of the system than the lower pulley does. He feels that your top pulley should be your best pulley. I haven’t tested this theory but my upper pulley is larger than my lower one simply because I want a bigger pulley should I ever need to haul 1 to 1 (heaven forbid!).

The photo above left was taken while I was soloing Zenyatta Mondatta in the Spring of 2011. The quickdraw connecting the Mini-Trax to the pulley spanning biner was there merely to get the Mini-Trax down below the knot in the haul line you see up at the bolts. I was rappelling the haul line to get to the lower anchor and eventually releasing the bags onto it. Getting the



Mini-Trax and 2:1 system on a weighted rope is easy. At first you don’t gain much distance with your pulls but after only five or six pulls you’ll be up to your usual stroke. Moving the Mini-Trax back up to the pulley spanning biner is easy. Shorten up your tie in to the Zed Cord a little bit, pull a full stroke, the weight is no longer fully on the Zed Cord, held by the Basic ascender and there is no weight on the Mini-trax. Unclip it, move it up, and you’re back in business.

I carry the whole system, all set up, in the Fish Beef Bag shown below. The whole rig weighs two pounds so it’s a little bit of a drag to lead with but given the weight and cluster of your standard wall rack, it’s hardly noticeable.



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The System is all set up including a biner tied to the Zed Cord that clips to my belay loop to begin pulling. For your first dozen times hauling with this system you will probably spend a fair amount of time fine tuning the length of the Zed Cord and finding the best body position in relation to the hauling anchor and the hauling system. If you're on a ledge, you might have the biner almost at the end of the Zed Cord and might be pushing with a foot as well as walking backwards. If you're at a fully hanging anchor you will be mostly squatting and



standing up.

A big tip here is to use a biner with a round cross section connecting you to the Zed Cord. I use a Clove hitch so that it's easily moved but the knot can cinch up tightly on a biner with a T or I cross section.

The most important movement is that when you stand back up or move close to the anchor that you push the haul line rope grab, in my case, a Petzl Basic, down as far as it will go on the haul line and push down *hard* taking up all the slack in the system. Don't forget that any inefficiency in a 2 to 1 system is doubled. If you leave an inch of slack in your Zed Cord, or your belay loop is not pulled tight, you will lose two inches of pulling

movement. Given that to haul a 150 foot pitch, your body will have to travel 300 feet, any wasted effort gets frustrating fast! I spend the time to make sure that when I'm standing up comfortably I can easily and quickly push the Basic down firmly. Most times I'll sit down, jerk the haul line through the Mini-Trax, grab something to help me stand up and push the Basic down with the same hand. You can see the movement real well here in this video of hauling from the ground to the top of the second pitch on the South Seas last fall.

[http://www.youtube.com/watch?v=B74MEcIgU\\_w](http://www.youtube.com/watch?v=B74MEcIgU_w)

