

the **CrossFit** JOURNAL ARTICLES

Two Training Aids

Greg Glassman

It has long been said that necessity is the mother of invention and this month we give support to that adage with two exceedingly simple inventions. Both devices address problems that have long plagued our training efforts.

Pull-up Assistance Device

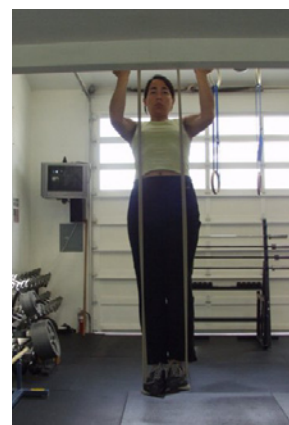
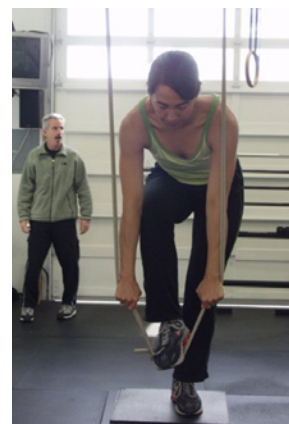
The first problem in dire need of remedy was how do we bring the pull-up to people who've never done one? Our first and easiest solution was the use of an assisted pull-up device like our favorite, the Stairmaster Gravitron, and we have long made regular use of the Gravitron with all our pull-up initiates.

There are several aspects of the Gravitron, though, that make its use problematic. First, the Gravitron is outrageously expensive. At nearly \$3,000 after shipping, few pieces of gym equipment come even close in price. The steep price is perhaps particularly foreboding to someone relatively new to serious strength and conditioning training as are most people working to develop their first pull-up. Imagine if your first weight set had to be an Eleiko; there'd be a lot fewer weightlifters!

The second major problem with the Gravitron and all other assisted pull-up devices is that they are about as portable as your kitchen refrigerator. Now, at first this doesn't seem like a problem, and for many people it may never become one, but not being able to do pull-ups at the track, at other gyms, or other than in your gym is for many of our trainees a formidable issue.

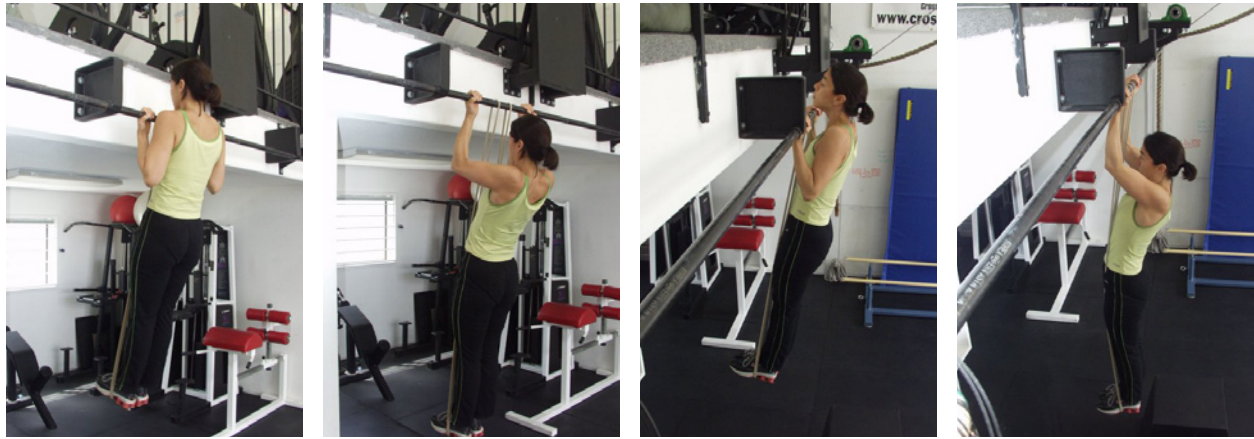
We solved the dilemma with a rubber band! We bought ten feet of "Theraband" from our local medical supply

store for a couple of dollars, tied the ends together, and we were done. Draped over the pull-up bar so as to allow two loops to hang evenly over the bar, the "Theraband" provided stirrups in which the trainee can place both feet and receive about forty or fifty pounds of assistance.



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The line of action is natural and the assistance can be varied by several approaches. “Theraband” comes in several resistances – selecting a length of greater resistance will, of course, provide greater assistance. By purchasing two bands and folding both over the bar you’ll have four stirrups within which to stand and thereby double the roughly forty or fifty pounds of assistance provided by a single loop. With a little patience and experimentation you’ll find the right assistance to allow you to perform a pull-up.

We recommend that you devise two set-ups – one that allows you to complete just two pull-ups and another that allows for fifteen. Both should be practiced regularly and between the two you’ll be able to participate fully in the pull-up component of the CrossFit Workout of the Day and train towards the ultimate goal of an unassisted pull-up.

Getting in and out of the “Theraband” is somewhat tricky. We’ve found the most comfortable technique is to pull the band to the ground and then step into the stirrups with one foot and then the other. Great care must be taken to prevent the bands from slipping off of the foot and smacking you in the face. There is a potential here for a very serious eye injury if you are not very careful.

Dismounting is also a little tricky. The safest and easiest dismount is to bend the knees then lift the feet up towards the bar and work both feet out of the band while maintaining a tight grip on the bar. It is probably a good idea to close your eyes while doing this in case the bands slip and come back towards your face. With even a little focus and practice you’ll be able to step in and out of the bands fairly easily and safely.

Heel Lift Detector

The other device we’re featuring this month is a “heel lift detector” designed to test for the heels’ lifting during the squat. Learning to keep the heels down during squatting and lifting is paramount to developing fully functional hip capacity. When the heels lift, the body’s center of mass and balance shift forward and the glutes, hamstrings, and the hip extensors, lose most of their efficacy and athletic functionality is greatly diminished.

Learning to drive from the heels is essential to optimizing hip function and subsequently developing full athletic prowess. Unfortunately, it is exceptionally hard for many who are learning to do this. Poor hamstring flexibility, weak hip extensors, non-existent glute-ham awareness, bad habit, and poor coordination all contribute to lifting the heels but in every case the heels must remain firmly planted. To this end we’ve designed a simple device.



Two Training Aids (continued...)

From our local hardware store we purchased the following: a 1 1/4" X 48" wooden dowel, ten feet of 1/8" nylon cord, and a 6" X 24" X 1/16" sheet of steel. The total cost was less than \$7.

We cut the steel in half along its width, drilled holes in the two halves of steel sheet near one width's edge on each piece and through the dowel 16" from both ends. Tying five feet of cord to both sheets of steel and the dowel finished the project. The entire project took less than one hour including the trip to the store.

The use of our "heel lift detector" is very simple. By placing the narrow edge of each sheet of steel about 3 1/2 inches under a squatter's heels and pulling gently on the ends of the dowel with just the index fingers, the squatter is ready to go. If the heels lift even fleetingly during the squat the sheet of steel slides out.

By the coach varying the pull on the dowel the steel sheets can be made to slip free when either the squatter's weight shifts even slightly to the ball of the foot or only when the heel lifts.

On first testing this device we noticed that some of our most flagrant violators of the admonition against lifting the heels were seemingly cured at the moment of placing the steel sheets under their heels. This heightened focus and awareness is exactly what we'd hoped for in this experiment.

The "heel lift detector" used with the overhead squat gives enormous emphasis to the essential mechanics of full athletic functionality.



Greg Glassman is the founder (with Lauren Glassman) of [CrossFit, Inc.](#) and [CrossFit Santa Cruz](#) and is the publisher of the *CrossFit Journal*.

