The below information was originally posted on one of our customers personal web page. It remained there for nearly 14 months before the page vanished. We present it here in its original format with all of the customers thoughts, it is unaltered in any way** (edit: We have updated the hyperlinks due to a website redesign)**. We felt the need to post it again as we feel his experience might prove valuable to other people looking to install their own zipline. With that in mind, may we present to you.....

How I put up our Zip Line

Legal Disclaimer:

Caveat lector. Zip lines are dangerous. I offer no guarantees about safety or any other aspect. Read this at your own risk. I take no responsibility for my experience shown here.

Background

We decided it would be a great gift to put up a zip line for our daughter's ninth birthday and use it as part of the festivities for her birthday. My wife found a zip line web site at the Outdoor Fun Store that would suit our needs. However, while I'm moderately comfortable with handy work, constructing a zip line intimidated me. There's drilling through trees, getting the right material, hoisting up the line with a tire. I wasn't clear where to start.

As I scoured the web, I saw that there were no others who made their zip line constructing experience available for reading and learning. Perhaps fear of litigation is part of this timidity. Read my legal disclaimer, by the way. So, I figured I'd document my travails for others that wish to do the same thing. Outdoor Fun Store offers $50 per half hour advice and I'm sure that trumps what's for free here. However, this may help you get started with more confidence, direction and deliberation.

Installation directions from Outdoor Fun Store

I think they're a great store, and I heartily recommend them for buying your zip line gear. We bought their Deluxe Zip Line Kit. As a 270-pound man, I can attest that I'm comfortable riding it. (Read my legal disclaimer) I do find their installation documentation too limited, however. The single page (front and back) they provide was too terse for my comfort level. What I document here is meant to accompany their instructions, not replace them. Be sure to read their instructions carefully and then you can see what I did for contrast.

What you'll need for a complete zip line run

Time

Don't wait until the last minute to get your parts together. Get the parts well in advance, particularly if there is a deadline, such as a birthday. You'll keep yourself and your budget from being compromised. Ideally, have all your parts ready two weeks in advance.

Zip Line parts

There are two main components: the trolley and the line (e.g., the cable that runs from tree to tree.)

The Trolley:

The kit above is the trolley (that's a rolling assembly that sits atop the cable) with a locking safety clip and a handle. The handle looks like it could be used for weight lifting. You could possibly find these parts more inexpensively individually but based on my personal experience, I advise against it. There are many factors that impact the weight bearing reliability of this component and I lack the engineering experience to verify the safety of any “do-it-yourself” combination.

The Cable:

First note: all metal parts must be compatible. Steel against steel, galvanized against galvanized. There is a third steel material that can go against both but I now forget what it was. Using plain steel clamps to secure a galvanized cable is a no-no. Use Google to find out why. I never bothered to find out but I have no reason to doubt this.

The cable consists of a heavy-duty cable, 2 eyebolts, a turnbuckle, and the cable clamps and thimbles. You can see what Outdoor Fun Store recommends for parts by way of their kit at this page.

You might want to see if you can find a better deal, cost-wise, for the cable. Again, my personal experience was discouraging. What I found to be the most practical solution was to buy a version of the above kit, but without the cable. Our local hardware store carries 50' by 1/4” galvanized cable and much lower cost. Finding the recommended turnbuckles and eyebolts was remarkably difficult. I spent countless hours with many nice people (who normally deal at much greater volume than this dad looking to erect a zip line) before I gave up.

Choosing a good path for the zip line

I don't want to make any recommendations as this is far and wide as to what you can do here. I do recommend that you pad your zip line path with rubberized mulch and plenty of it. Kids will fall. There is a remarkable difference when a child hits rubberized mulch versus nothing. Read here for more on a safe play area.

Find two healthy trees that are at least 15” in diameter. Have an arborist confirm your selection. You can seriously damage an ill tree when you drill for the cable eyebolt.

Our landscape designer helped us select an excellent path against two strong and healthy trees.

Run a mason line from tree to tree

The mason line helps you visually setup for the cable run. Check the angle of the line. The steeper the line grade, the faster and potentially more dangerous the zip line. I have no recommendations as far as slope. I am not an engineer nor do I play one in any fictional setting. Read my legal disclaimer. I relied on my horse sense and it worked well for me.

As for height, our zip line is about 8” above the ground. We figured this would be a good height as our kids get taller. If the line is too high, the kids will drop too far and this is dangerous. If the line is too low, taller kids and adults can't run the line.

Drill the tree for the eyebolt

You'll need an auger bit to perform this and a drill that will accommodate that size of a bit. The size of the bit follows the diameter of the eyebolt. The length of the bit must be greater than the diameter of the tree. To accommodate, this meant buying a drill with a 5/8” chuck. I bought the most inexpensive drill with this size chuck and it did the job well. (I needed a new drill anyhow.)

The Outdoor Fun Store recommends that you drill these holes so they are in line with the line of the cable run. I used the mason line for positioning the angle of the drill but it was nearly level.

Drive the eyebolt through the hole

Use a rubber mallet to drive the eyebolt through the tree. I took a shortcut (against OFS's advice) by using a hammer and I may have stressed the eyebolt. I am checking it regularly for further stress.

I have the eye of the eyebolt running vertically. I don't know if this is required but it seems to be less stressing to the metal than having it horizontal or any arbitrary angle.

Attach the jaw end of the turnbuckle to the eyebolt


I put the turnbuckle on the “finish” end of the cable. Adding distance to the end of the run away from the tree helps to prevent injury from slamming into the tree. Our run ends about 6’ from the tree. One would have to try very, very hard to hit it with their body.

Attach cable to the “start” eyebolt


First, put the cable thimble onto “start” eyebolt. Then, thread the cable and attach the cable clamps. Knowing what torque the clamps' bolt should be would probably be helpful to reduce the chance of metal fatigue.

It's obvious to me now but wasn't when I was erecting this line. You do not need to have the trolley component on the zip line. This unit freely attaches and detaches.

Prep the tire

Firstly, I veered from OFS's directions by getting a larger tire than what they recommend. I was worried about it looking “trashy” but this hasn't been a problem. I went to a nearby tire store and asked if they would let me rummage through their tire garbage and they happily obliged. As it turned out I got 14” tires, (from a Geo Metro?) which was not too large. In retrospect, I'm happy with going this route and it saved me about $20.

OSF recommends drilling holes in the tire so that rainwater can drain regardless of the position of the tire. I did this. Drilling holes in a tire isn't a great deal of fun.

Attach the cable to the “finish” end

I did not anticipate what follows. Attaching the cable to the “finish” end means stringing up the cable. This also means that I was bringing up all the weight (basically the tire) as I tensioned the cable. The lighter tire might help here but it isn't terribly difficult.

Loosen the turnbuckle in advance so that you can later tighten it. I gave myself about 75% slack as a starting point for the turnbuckle.

I attached the cable thimble to the bolt of the turnbuckle. I threaded the cable around and affixed the cable with the clamps. I kept the tension on the clamps loose enough so I could draw the cable through the thimble and clamps until I had the cable reasonably tight. Remember that we'll use the turnbuckle to better tighten the cable. When I was satisfied with the tautness of the cable, I tightened the clamps as I had the other end.

Then, I tightened the turnbuckle until I was satisfied with the tautness of the cable. My wife and I bicker over whether the cable has enough tension. Based on the pictures at the OSF web site, the tension we have is greater and therefore I'm satisfied with the tension.

Test the run


Being heavy, I anticipated running the maiden trip down the zip line. I was curious to see if my run would cause the eyebolts or clamps to loosen. I made several runs, checking these parts each time and fastening as necessary.

Have fun


Some advice for your kid's first run

1. No runs without adult supervision, especially an adult that can lift or catch the child safely and comfortably.
2. Have plenty of mulch under foot!

3. Have your child be comfortable with what the zip line run will mean. Our's isn't terribly fast but younger and less confident hands will let go before they should at the end. Make certain they have a firm grip and coach them to hold fast on the “finish” end.
4. Have someone strong enough to catch the child and travel with the child the whole length of the zip line. In fact, what I do now is I hold the back of the child's shirt as we go down the line. This effectively slows the child down. I then check at the finish end whether the child is comfortable dropping to the ground.
5. Make sure the child knows how to land!