Build Your Own Stilts.

Introduction

So you want some stilts and you dont want to pay big bucks for them. It's fairly simple to make a budget pair of stilts that will serve for years. They may not be as comfortable or flashy as your professionally made ones, but they work and are cheap!

I adjusted them for my height etc. Measurements are either in imperial (inches and feet) or SI metres and mm depending on how I feel when I get to that bit! 1 inch = 25.5mm (approx)

Before you rush out to the shops you need to ask a few questions:

- How high do I want these ?
- How tall am I ?
- What weight do they need to support (child/adult/fatbloke) ?

These questions determine the exact amount and size of wood for example a child's version you can probably use wood that is 1.5" x 1.5" (35mm x 35mm), for an adult you'll need 1.75" x 1.75" (45mm x 45 mm) for a fatbloke probably 2" x 2" (50mm x 50mm). You make these judgments yourself. Obvisouly the bigger the wood the heavier the stilts and more tiring to use. I used cheap softwood (pine) better quality is Ash but hardwoods are too heavy.

Instructions

Here's a shopping list of things you'll need, the measurements are what I used for mine you'll need to adjust accordingly and plan it first, don't just run out and buy the bits and find you have to go out again! Also when you are buying the bits think about sizes, dont get screws that will go right through the plywood when attaching the bracket.

You can change as many of the details as you like, eg the width of the plywood and size of coach bolts, if you do adjust the other measurements to fit.

Ingredients:

- 3m Planed Wood (approx 2" x 2" section approx 5 UKP)
- 1 x 10 mm Plywood 1ft square (approx 1 UKP)
- 2 x Brackets (approx 0.4 UKP each)
- 4 x Coach Bolts, 125 mm (6") or 100mm (4") (approx 0.5 UKP each)

- 4 x washers for above.
- 6 x 2 inch screws
- 6 x small screws
- 5m Upholstery Webbing (for straps approx 1 UKP per metre)
- 1m Velcro (wide stuff 50mm donn' know but I think approx 5 UKP)
- I pair of shoes/boots that fit you!
- Optional:
    - foam padding
    - cover for padding
    - paint

Tools:

- Tape Measure
- Handsaw
- Fret Saw/Jigsaw/jnr Hacksaw
- Drill
- Two drill bits:
    - big one for coach bolts maybe 6 inch long by 9mm
    - one small one for pilot holes for screws maybe 3 inch by 3 mm
- Spanner
- Screwdriver
- Staple Gun (or hammer and tacks)
- Plane (optional)
- Sewing machine

Construction

Here's a tip from my late grandfather (Arthur Stone) a master vatmaker (whose wooden vats graced Guinness breweries in Dublin and the Sarson Malt Vinegar factory near London Bridge railway station as well as others) and fine man.

"measure twice and cut once"

It can be expensive and very frustrating to ignore his advice!

Step 1: The Measuring.

First decide how high you want the stilts to be (we'll call it **H**). Mine are 20 inches give or take a little bit and that fine for me; according to my brouchures you can buy them either 18 or 30 inches high. Think about how high you want to be from your audience. If you are a lanky git already then you may not want to add too much, if on the other hand you are a short arse you may wish to bolster the height some more.

Now sit down and with your leg bent 90 degrees measure the distance from the ground to the middle of your kneecap (we will call this **K**). For me this is about 22 inches

Calculate **L** = **K** +**H**. This is the length of the piece of wood you'll need for each stilt. It's approximate, mine turn out to be 43 inches!

Draw around (be VERY generous) your shoes/boots onto the piece of plywood. Flatten off a section with a straight line on the inside of the outline about 3 inches from the heel and about 3 inches long. Add about an inch to the inside of the template to allow for the ankle bone, (think about it).

Step 2: The Sawing

Cut your length of timber into a piece **L** long, with nice square ends. Now cut another piece of the same timber about 8 inches long, this is the **support**. Sand off and nasty bits.

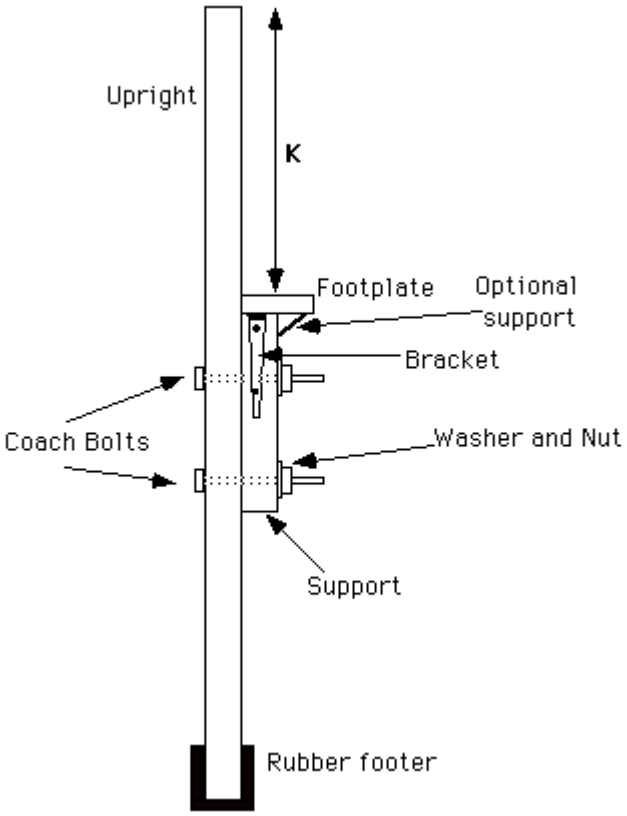
If you are a very Fatbloke you may need another bit of support for the foot. Ideal would be a bit of 2" x 1", 4 inches long. This would be attached to the side of the support for the footplate to rest on.

Cut out the footplates from the plywood using a fret saw or jigsaw or band saw or a junior hacksaw if required. Sand these off. The squared off flat bits will rest against the upright.

Step 3: The Drilling

From the top of your piece of timber measure **K** from the top of the stilt and mark a line around the wood. Align the top of the **support** with this line. The footplate will rest on this **support**. Drill a hole (wide enough to take a coach bolt) 2.5 inches down from the top of the **support** though the **support** and upright and put in a coach bolt. Drill another hole 2.5 inches from the bottom of the **support**. You may wish to use 3 bolts for heavy people and maybe a longer **support**, I put in a long screw instead. Coach bolts have a domed head which I put on the outside to avoid snagging trousers/passers-by!

Position the footplate and drill 2 pilot holes through it into the **support**, put in the 2 inch screws. Now attach the bracket underneath to the footplate and to the front of the **support**. You can now add a mini bracket from the side of the **support** to the footplate if you require, I used a mini shelf bracket for mine.



Now it should look something like this.

Step 4: The Sewing

Cut your webbing into lengths sufficient to go around the stilt and your foot/ leg **at least** one and a half times. I guess something greatler than 2ft should be ok, **but check first**. Hold one end of the strap in place on the stilt then wrap it around completely once then come around again to finish in front. If you have plenty of strap go around again. Mark where the end of the strap overlaps the previous layer (this is for the velcro).

Overlock the end of the webbing (or melt if nylon) using a zig-zag stitch to prevent fraying. Stitch on 4 inches of velcro loops, find the marked piece of material and stitch on the 4 inches of velcro hooks. When you have attached the strap the velcro should match up!

You will need one strap for the footplate, one for the ankle and one for the knee.

Step 5: The Padding

Stick the foam onto the inside of the upright. You can use staples or tacks to fasten it but probably using tape is best (gaffer tape or packing tape should do) to keep it in place. You can then wrap some nice cloth around and fasten with a staple gun /tacks, fasten them to the outside of the upright away from your legs.

Step 6: The Bondage

Now you need to attach the straps.

Footplate: Either staple gun or using a screw and washer arrangement, fasten one end of the strap to the base of the footplate, securely. Leave an inch or so before staples so they dont pull through.

Uprights: For these fasten the straps as above to the back of of the upright. One should be just below the kneecap and the other just above the ankle bone.

Important note from Zoe Van Hoover.

"The only advice I can think of is don't use velcro to hold them on if you plan to use them in damp weather."
Which sounds like good advice. Indeed at the moment I am sewing some ties (from strips of old sheet) to supplement the velcro straps. these will just be say a two inch strip folded into quarters and sewn flat, then attached at the same point as the straps to add an additional bondage method.

Step 7: The Finishing Touches

Paint or varnish the bottom half of the upright for visual effect.

You'll need some rubber on the bottom, you can either us a bit of old car type or a special moulded footer like on walking sticks if you can find them.