

Trebuchet of the large variety (a work in progress), 4.28.07 update

by [StepsoftheSun](#) on April 4, 2007

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Intro: Trebuchet of the large variety (a work in progress), 4.28.07 update

This is my second wooden, hanging counterweight trebuchet and the first well-documented one. It will be bolted together from many self-designed and self-constructed components, each about six feet in length. Hopefully, that strategy will allow for some degree of siege mobility and make fixing broken sections of the device far easier. Oh yeah, a **trebuchet** is a medieval-era siege weapon capable of hurling a variety of **things** great distances, inducing feelings of pleasure (in me anyways).

I want to hear your trebuchet tips! This project is just starting and will be updated gradually as things progress; I'm sure there's some latent treb-knowledge in the heads of many Instructablers. Let me know what you think of current plans and where you'd like to see the trebuchet go. Favorite arm-ratios, clever trigger systems, winching mechanisms, sling designs...I'd love to try implementing them. I've never attempted a large scale floating arm trebuchet, but if you're convincing enough, I just might. If you'd like to be a collaborator, let me know and I'll try to add you on.

Also, I'm an enormous SketchUp fan. I'll try to present screenshots of any models I use but viewing and helping with this Instructable will be easier if you just download the (free) software [here](#).

This page will also carry the breakdown of the trebuchet's cost (see the Excel file below). As of my last expenditure on April 27, 2007 I've spent \$315.

This here Intro page will be the resting spot for the most current model of the entire trebuchet.

A warning to fellow siege engineers: This project can be considerably dangerous, given the gravitational energy of these things and the fact that it is a weapon. Exercise great caution if you decide to build a trebuchet of any size--smaller models (like [this](#)) should be attempted first to get a sense of their operation.

Last note! The **Sourpuss Trebuchet** is a major inspiration to this project; a final product half as good as their device would be incredibly pleasing. The **Dr. Seuss Treb** should also be cited for it's poetic awesomeness.

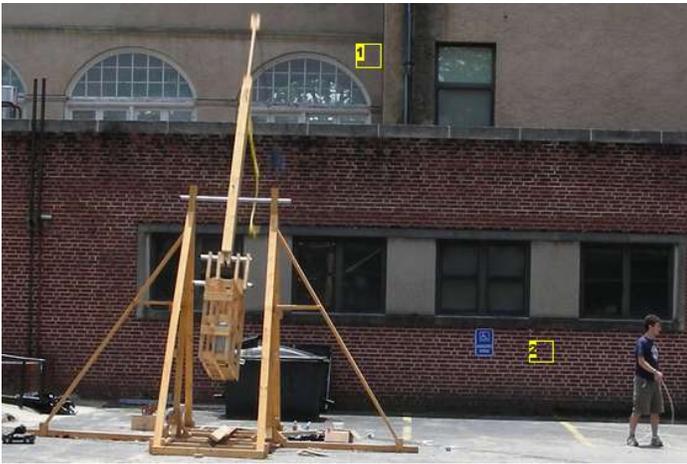


Image Notes

1. A trebuchet of yore. The new one (this Instructable) will be slightly larger.
2. Dude, the cool stuff is definitely not over there...

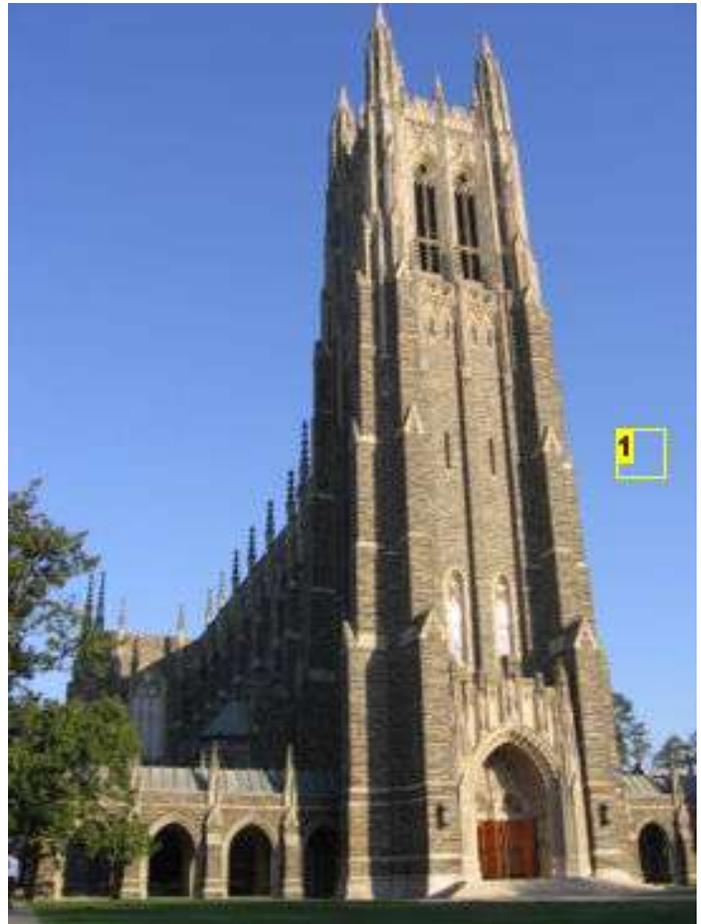


Image Notes

1. And there's a castle-like object in the vicinity! Only kidding...I'd never shoot at the lovely chapel.

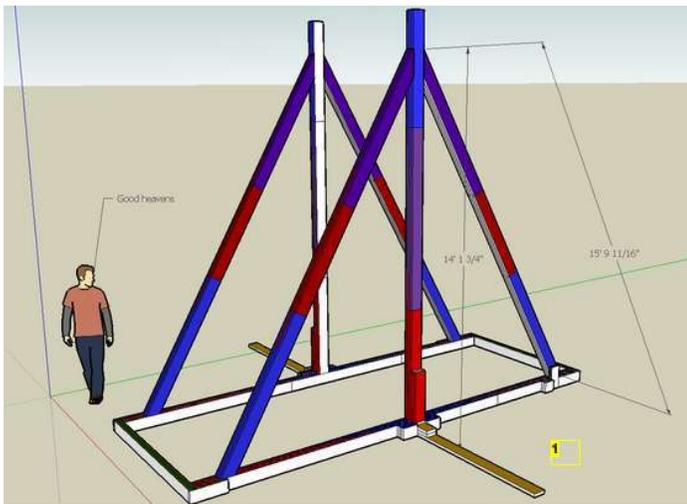


Image Notes

1. Currently thinking ~30' tall post-firing!

File Downloads



expenses 4.26.07.xls (20 KB)

[NOTE: When saving, if you see .tmp as the file ext, rename it to 'expenses 4.26.07.xls']



treb2b, SUver5 4.25.skp (129 KB)

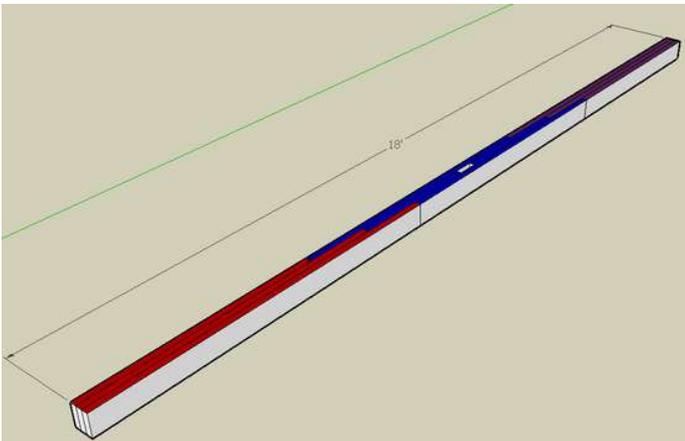
[NOTE: When saving, if you see .tmp as the file ext, rename it to 'treb2b, SUver5 4.25.skp']

step 1: Base: design (I)

This step will cover my design for the long end of the base (the entire base will be rectangular in shape, I think; the short ends will be covered in part II). The plans for one of the long ends can be seen in the SketchUp file. As each long end of the rectangular base is identical, this design will just be built twice.

I wanted a slot in the middle of the base to help align the main vertical support when it is put in place (this whole thing is modular, remember). Have no fear, more bracing than 5.5" of pine will be made for this vertical support later. The total length is 18' and I decided to go with 2x6's (which are in fact 1.5" x 5.5", just to make that clear) just cause they seemed pretty sturdy... These long lengths of the base are 3 2x6's wide (aka, essentially invincible).

The screenshots of the SketchUp file below give the whole picture (it's pretty simple). Each section--red, blue, and purple--will overlap by 16" and be bolted through to secure all three pieces into one component. It helps later to remember that every offset made in this part is 16". Note that the red and purple section are identical (whoa!). The blue section looks kinda tricky but just check out the dimensions, don't forget about the 5.5" slot, and remember the overlap/offset 16" rule.



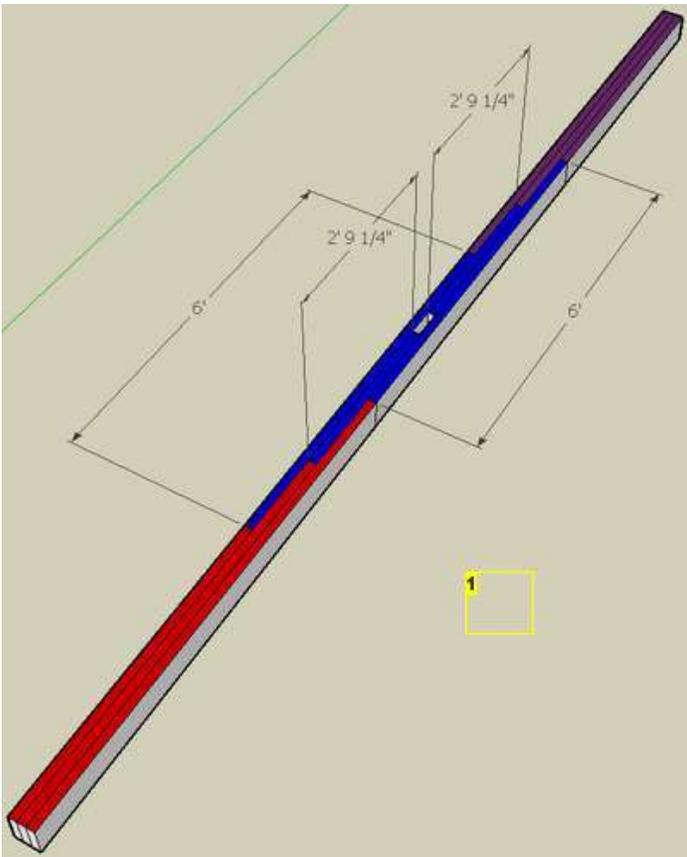
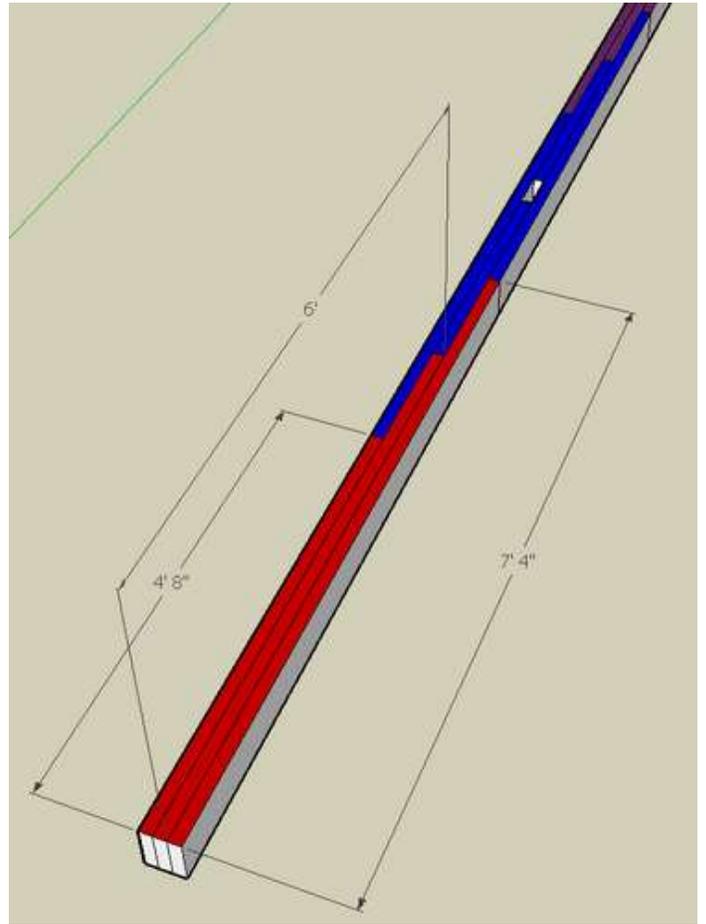
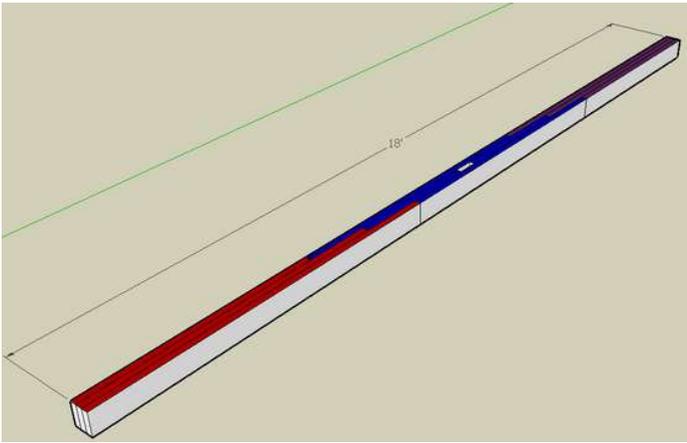
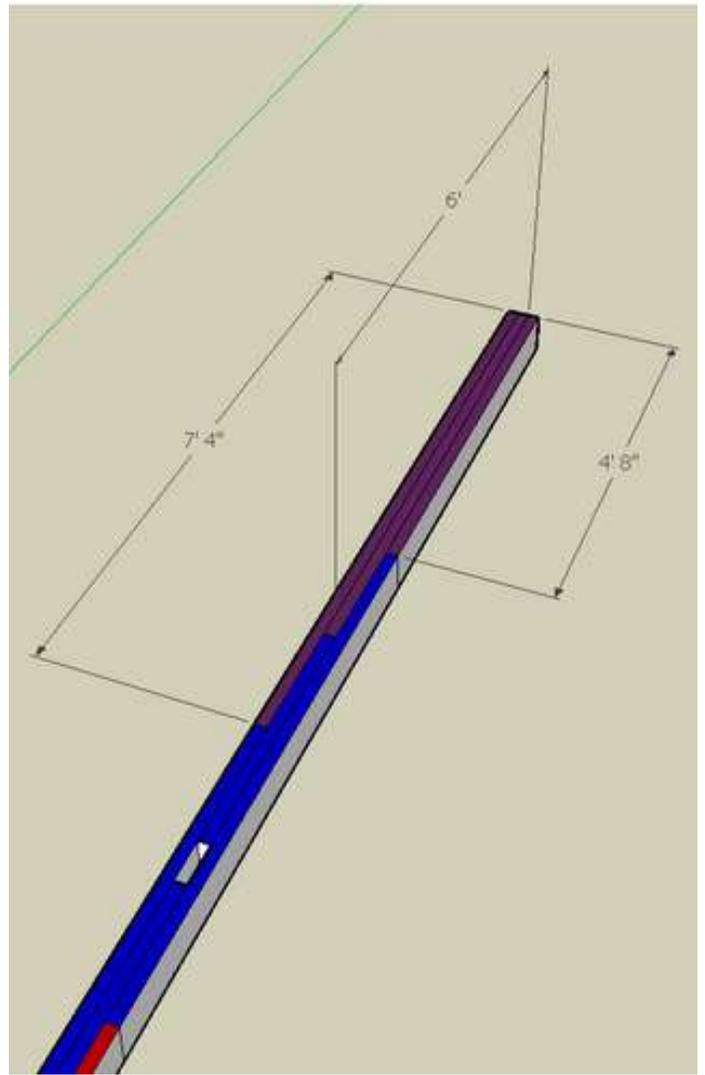
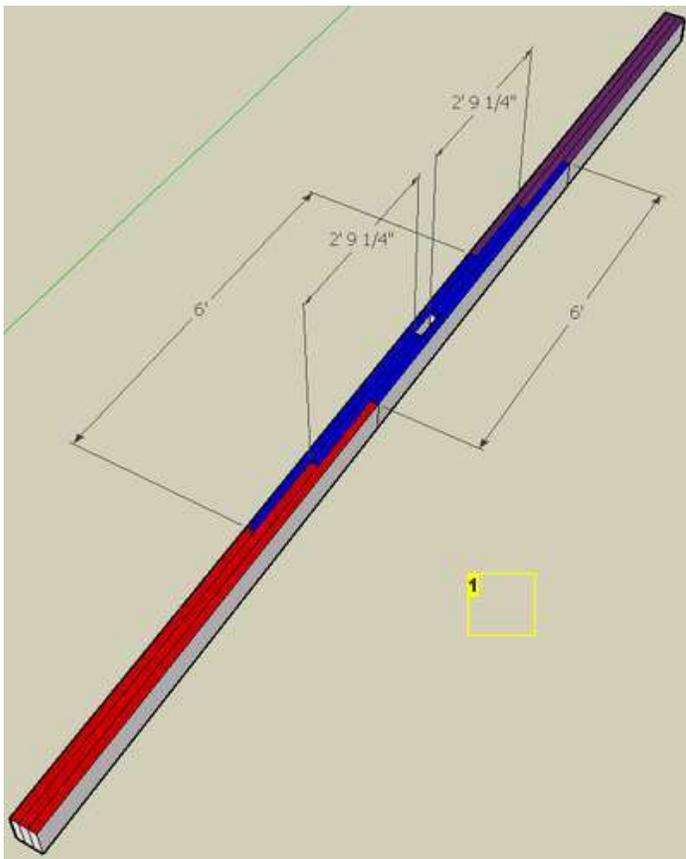


Image Notes

1. The 2' 9 1/4" measurements go up to the edge of the slot (but they do not include the slot itself).



File Downloads



ground length SU5.skp (33 KB)

[NOTE: When saving, if you see .tmp as the file ext, rename it to 'ground length SU5.skp']

step 2: Base: construction (I)

Let's build that base design (I) thing! Hah, I borrowed a little two-door Saturn to get to Home Depot and had to make three trips to get all the wood...sigh. It was fun though; I bought 16 2x6's to do the job (each is 8' in length). You are strongly encouraged to be more resourceful and find some scrap wood or make things less thick, whatever you'd like (that's going to be a recurring, cost-saving element in this Instructable, "be more resourceful than me").

Square the ends of your wood before you mark them (just cut off an inch or so from end, then measure from that freshly cut end). Mark the lengths and slice it up!

A quick cutlist (all parts come from 8' 2x6's):

legend: quantity of 2x6's should be cut to the given length

8 at 6'

4 at 4' 8"; 4 at 2' 9 1/4" (make these two pieces off of the same 8' 2x6 and repeat four times)

4 at 7' 4"

It may be handy to have the previous step, Design of base (1), open as you read this. I used 10d nail fasteners (they're 3" long) and some carpenter's glue to put the pieces together.

Construction of blue/purple sections (remember, blue = purple...I'll stop saying that) is as follows. You'll use a 7' 4" piece, a 6' piece, and a 4' 8" piece. Lay the flat ends of the pieces atop each other with the 6' piece in the middle. Go to one end of this component and align all the ends at the end...an awkward repetition of words but press on! If you align them, the other side of the three boards will become staggered at 16" forming something vaguely step-like. Fasten those suckers together; I put a good layer of glue and then drove two nails every 6" or so. Clean up the glue that comes out of the seams with a warm paper towel. That makes one component; repeat this three more times (you'll have four of the components at the end).

The middle, blue section with the slot will require two 6' pieces and two 2' 9 1/4" pieces each (we'll be making two of the blues). Start by putting a 2' 9 1/4" piece 16" in on one end of a 6' piece. Mark where this piece is going to be located before fastening so you can put the glue down carefully--this thing has a slot and glue should be kept out of that area opposite the 16" offset. Fasten that and then find yourself a scrap 2x6, there should be several somewhere... The 5.5" slot is the width of this scrap; set that in place then butt up the other 2' 9 1/4" piece against it, down the length of the 6' piece. Put down your glue and, with the scrap still in place and the small piece tight against it, nail it all together (er, but no nails in the scrap piece). The remaining 6' piece will go 16" in from the first 2' 9 1/4" in piece you put in during the last sub-step.

The entire thing will form a sort of "jagged parallelogram." Hah, you'd likely be better off looking at the design photos than listening to my ridiculous descriptions. Repeat

<http://www.instructables.com/id/Trebuchet-of-the-large-variety-a-work-in-progress/>

the blue section twice.

You should now be able to create an 18' long section of the trebuchet's base by aligning two of the "step" pieces with the slotted, "parallelogram" piece in between. If it's a bit off and things don't quite line up, it's not a big deal as the bolts used to hold the pieces of the component together can be placed anywhere in that overlap.

I'd love to hear some suggestions for improvement to the techniques in this section--I'm a half step above "novice carpenter" so I have a feeling there are better/more accepted ways to do some of this.



Image Notes

1. one of my favorite tools



Image Notes

1. pictured is one of the nailed and glued blue/purple sections (blue and purple referring to the previous step)
2. The unattached piece of wood in the picture will go 16" from this end (and be flush with the other end).

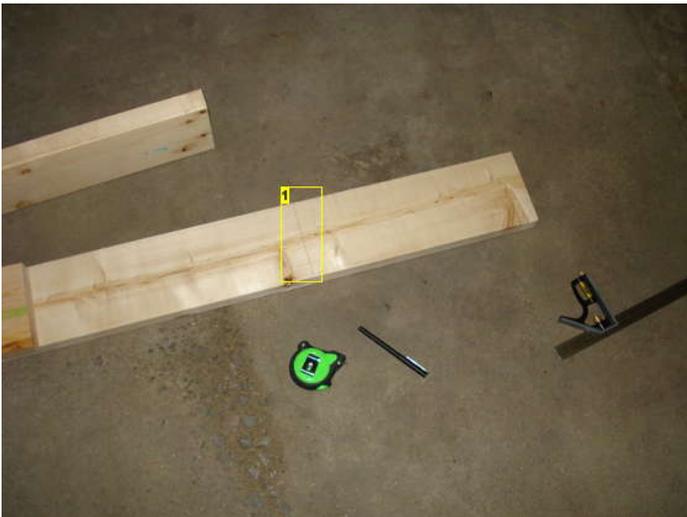
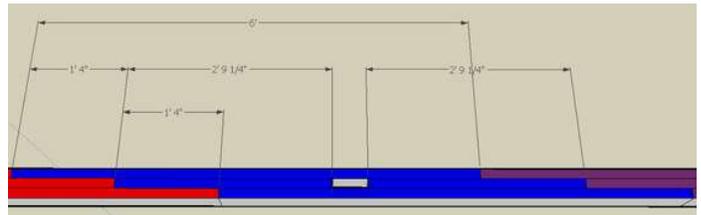


Image Notes

1. 16" from end!



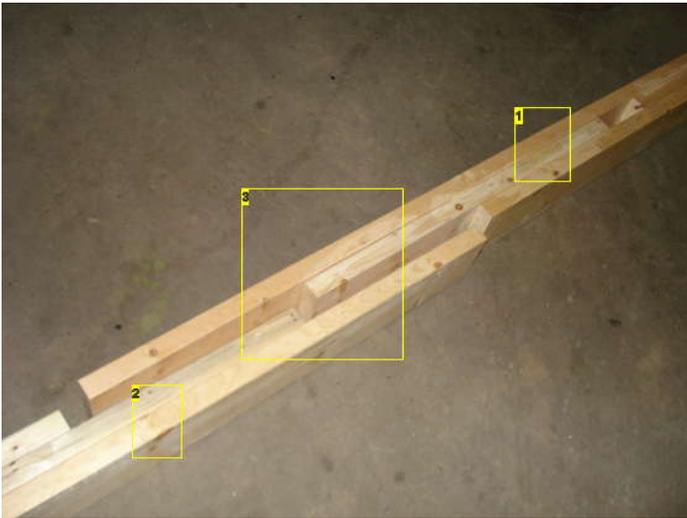


Image Notes

- 1. blue piece
- 2. red/purple piece
- 3. intersection that will take some small bolts later

step 3: Base: construction (II)

If you recall, the plan was to connect all of these base pieces (like the rest of the trebuchet) with bolts. I somewhat arbitrarily chose 5/16" diameter bolts. They're 5 1/2" which was the minimum length to fasten three 2x6's face to face to face. Washers and nuts corresponding to the 5/16" diameter were also purchased. I initially thought of putting four bolts through every 16" overlap (totaling to 8 bolts per joint). In retrospect that qualifies as excessive--it'd require 32 fasteners all in all. I ended up buying half that and two extra (18 total) for two bolts per connection plus spares. On to drilling!

It'd be nice if any of the red/purple base pieces could go with either of the blue pieces. Part labeling would not be required and assembly would likely be simpler. To attempt this Herculean task I made a little drilling jig out of a spare 2x6. I would use four holes in this piece to align the bit when drilling the red, purple, and blue pieces. This ended up failing for two reasons. (1) I didn't measure the holes in the jig. They would need to be exactly symmetrical about both axes for any red/purple piece to fit with any blue middle section. (2) None of the red/purple (should I just start calling them purple?) pieces were "exactly" the same meaning the jig aligned on them differently. Things won't fit if they're off by more than 1/8" or so, so another method was chosen. Press on!

Giving up on interchangeable components, I started drilling one part with the jig (let's call this part A). The piece intended to fit with A was then drilled using part A as a template for the second. All pieces were labeled.

Final note (apologies for the wordiness of this step): Though my bolts were 5/16" in diameter, I drilled holes for them with a 3/8" bit (1/16" larger). This made actually putting the bolts in far easier.



Image Notes

- 1. Finishing the hole in one section; I started this hole by using the piece labeled B (on the right) as a jig



Image Notes

- 1. This section is a real part of the base and was used as a template for drilling the holes through the piece below.

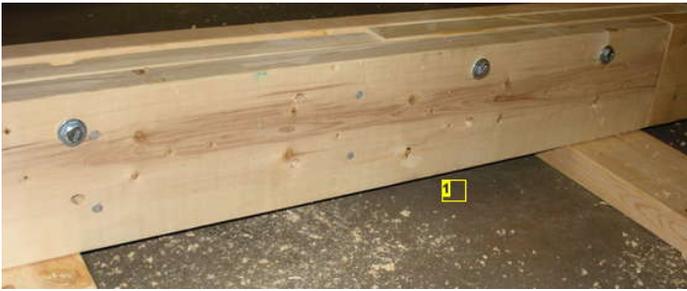


Image Notes

1. I just added a few bolts to make sure things fit snugly (they did).



Image Notes

1. A lightly daisy-chained extension cord; massive thanks to jendaviswilson's Instructable on the matter.

step 4: Main support: design and construction

What I call the "main support" is the vertical piece that goes in the center of the base; it will hold the treb's axle. Each of the two supports is designed to break down into three components. When the pieces are bolted together, the main support is about 15' 6" tall. Cool.

I needed 18 8' 2x6's for these; you can get fewer boards if you buy 10' lumber but the costs were actually about the same and using 8' pieces gives a lot more scrap (useful later). Here's the cutlist for both of the main supports:

- (cut this many 8' 2x6's) at (into these measured parts for each 8' 2x6)
- 2 at 4', 2' 5 1/2" (thus cut one 8' piece into 4' and 2' 5 1/2" pieces and then repeat with the other 8' piece)
- 2 at 4', 2'
- 2 at 4'
- 2 at 5' 4"
- 4 at 6' 8"
- 4 at 4' 4"
- 2 at 6' 1 1/2"

The SketchUp file will be most helpful in construction--the same techniques that were employed in the base construction were used here (16" overlaps, nails, glue, music). Once your pieces are made, align them and drill holes for the bolts to come.

I actually held off assembling the very top pieces (blue) of the main support. The axle will pass through this part and I wasn't sure of how to drill the axle hole such that the axle is level. This'll be posted in the questions section and mulled over. A response and my course of action will eventually go here.

As stated earlier, save your scrap! There's going to be a lot of extra wood and future pieces of the trebuchet will make good use of them.



Image Notes

- 1. components intersect here
- 2. red component
- 3. purple component

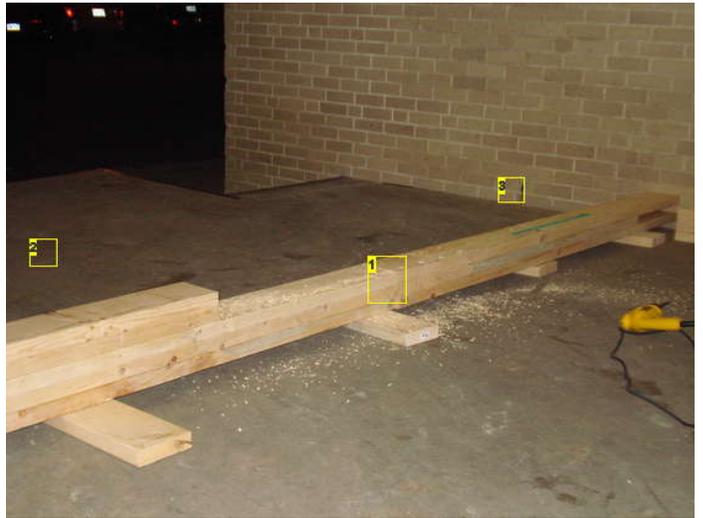
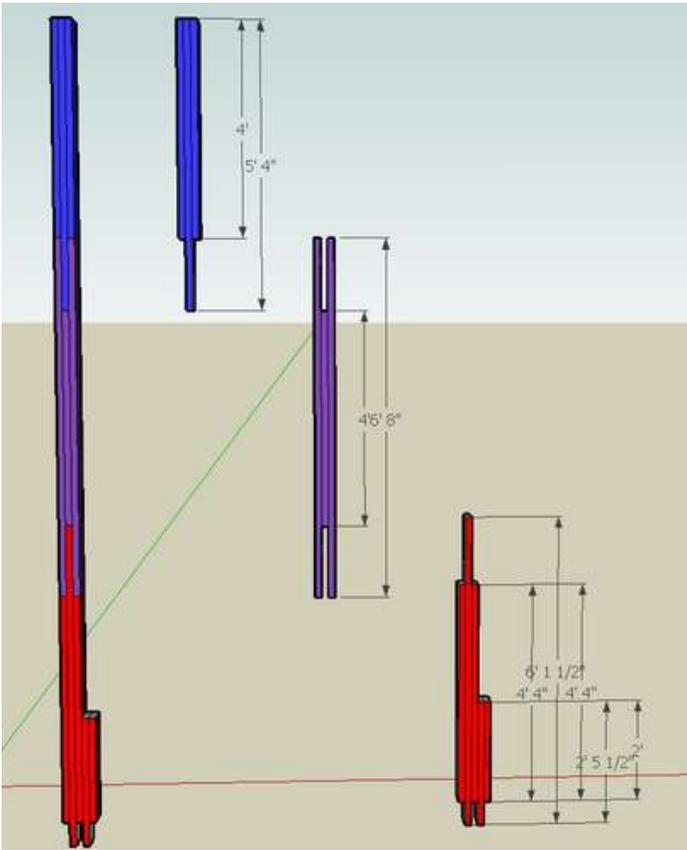


Image Notes

1. Agh, this step killed my awesome Komelon tape measure...I loved that thing.

File Downloads



main support, color.skp (50 KB)

[NOTE: When saving, if you see .tmp as the file ext, rename it to 'main support, color.skp']

step 5: Initial assembly

With the base and main supports both about two-thirds of the way done and no lumber to work with last weekend, I decided to put this thing together. There's not much instruction here, it was just nice to see how the project was progressing. The diagonal supports that can be seen are temporary. Things bolted together nicely and it was, on the whole, very intimidating...



Image Notes

1. This photo was taken before the topmost piece was created. Translation: the trebuchet will actually be four feet taller than in this photo.

step 6: Base: design (II) and construction (III)

The two 18' long base pieces need some method of attachment to one another (besides the trebuchet's axle). Enter the base ends! Each base end will consist of two nearly identical components that are bolted together. The long ends of the base will slip into the channels and some sort of rod (or a really lengthy bolt) will attach both components. The vertical pieces you see are for diagonal braces of the main support piece; one end of the diagonal attaches here (at the base section's end) and another attaches up at the top of the main support.

The SketchUp file posted contains the measurements of these pieces.

Assembly time! Let's start with a cutlist (suggestions for ways to improve my cutlist presentations would be great...I'd love to use a table or something but don't I don't think Instructables has that format yet and I don't want to make people download another file):

(cut this many 8' 2x6's) at (into this quantity of these pieces)

4 at 4' 1/2", 2' 8 1/2", 8"

2 at 2x (2' 6"), 2x (1' 1 1/2") this means take an 8' long 2x6 and make two 2' 6" pieces and two 1' 1 1/2" pieces. Then repeat with another 8' long 2x6

2 at 2x (2' 3"), 2x (1' 4 1/2")

2 at 4x (1' 4 1/2"), 2x (10 1/2")

I ended up using only 8 2x6's (the cutlist above calls for 10 total) because of the large amount of scrap left over from making the main support.

The assembly of these pieces ended up being the most complicated part of the build to date. I was fortunate to escape with only one mistake (gluing/nailing two pieces that should not have been attached). For those following the plans, be extra careful in this step to check that you're attaching the right parts--many things look very similar but some components are mirror images of one another or one piece is slightly longer, etc.

<http://www.instructables.com/id/Trebuchet-of-the-large-variety-a-work-in-progress/>

It's also tricky because the nailing has to be done in a specific order due to the length of nails. Allow me to explain...first checkout the SketchUp file. The design can be aptly described as "screwy" so look at it carefully. The specific construction notes are listed in the notes on the images below--read carefully. Questions about any part of this in the comment section or a private message are completely understandable.

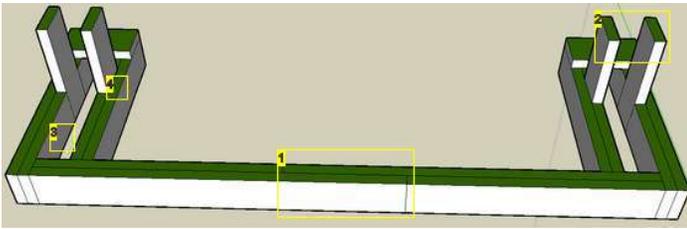


Image Notes

1. 16" section that will receive bolts
2. The vertical pieces are bolt plates for diagonal supports (not shown).
3. The long ends of the base slide into this channel.
4. inner bolt plate



Image Notes

1. First make an inner bolt plate. Four pieces of lengths 2' 3", 1' 4 1/2", 1' 1 1/2", and 8" will be needed.



Image Notes

1. These three pieces are spacers--they are not to be nailed. They're stand-ins for the long end of the base that will slide into the channel.
2. This is piece A, fasteners of your choice go through here into the bolt plate.
3. inner bolt plate that's being attached in this step
4. Piece B here was initially used to square up the rest of the setup, then removed before nailing. When the bolt plate is secured to piece A, slide B back into place and nail it to A.

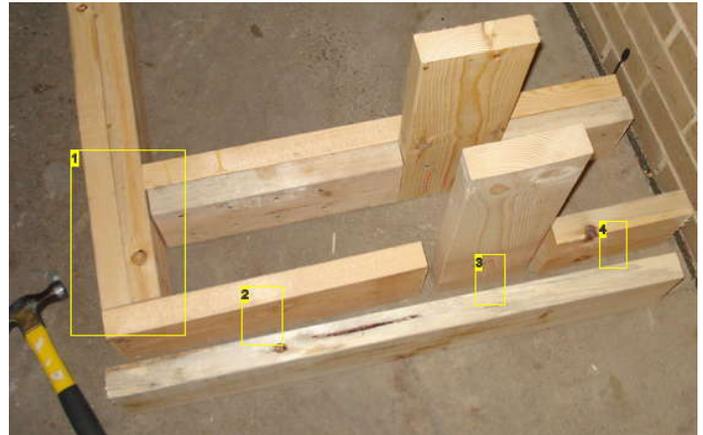


Image Notes

1. Joints within this box have been fastened already.
2. Put the spacers back in (not shown in the picture) and start creating the second bolt plate by nailing these two together with 2 1/2" nails (8d's).
3. Fasten these...
4. ...then these.

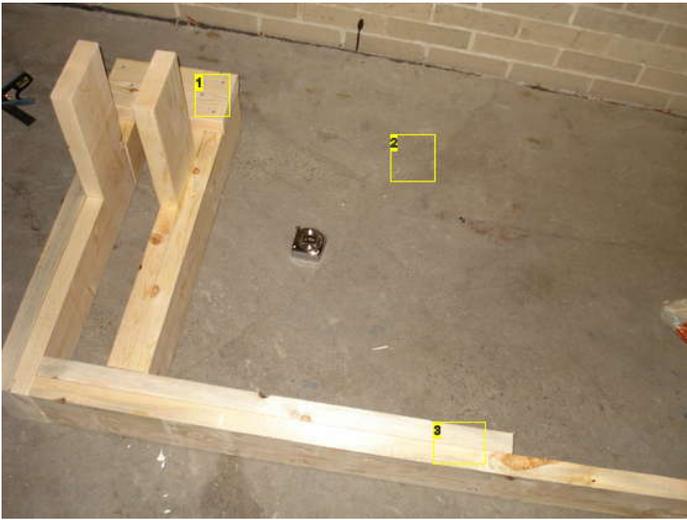


Image Notes

1. This 10 1/2" top adds a good deal of strength, be sure to put it on.
2. Floor...just kidding. Repeat this entire component once and you're halfway done with the base ends. The final two components are pretty similar, they just have the long end on the inside (to create that overlap) and the bolt plates are on the other side of the component.
3. Switch the long and short pieces (boxed here) when making the matching component so the overlap works out and the components can be bolted together.

File Downloads



base ends.skp (79 KB)

[NOTE: When saving, if you see .tmp as the file ext, rename it to 'base ends.skp']

step 7: Current questions

A list of things that need to be resolved (I'd love to hear your thoughts!):

- (1) The main support pieces need to have an axle hole drilled clean through them. I'm not sure how to do this precisely enough such that the axle is level when in it's in place. The difficult comes from the fact that pieces are bolted together and have a little bit of give. The wobbling of the pieces is very slight and may be insignificant...I'm really not sure.
- (2) A good counterweight material is needed. High density is a must but something that comes in manageable pieces is also important. I've done concrete blocks before and it worked alright--would adding metal to the concrete mix be beneficial?
- (3) Wheels, how do I get strong removable ones? I'd rather not purchase them because I bet they'd be expensive. A trip to the scrapyard is probably in order. Other ideas?
- (4) Arm ratios!? (This is the ratio of the throwing arms long end to it's short end; the ends are split by the axle's position). What's the advantage of a large ratio (5.5:1) vs a small one (2.5:1)?



Image Notes

1. The trebuchet of yesteryear, yet again.

step 8: Further order of operations

Here's the plan for the next week or so (I'd like to hear thoughts):

(0) get wood for the base ends and make 'em

(1/2) put the small additions onto the main support as per the plans

(1) drill axle holes in main support; fix the possible alignment problem by assembling both of the main supports, putting the axle through them, leveling/squaring everything, *and then* drilling the bolt holes for the top piece's connection to the rest of the main support

(2) continue refining model



Image Notes

1. the old trebuchet again, photo props to idaedheloth

Related Instructables



Build a trebuchet in five minutes by aztennenbaum



Wooden Desktop Trebuchet by AcceptableRisk



Catapults (guide) by mg0930mg



How to Make a Medieval Trebuchet Out of Cardboard by ineverfinishanyth



The Office Siege Weapon Series: The Pencil Trebuchet by zaro12345



The Curiously Strong Trebuchet: A Pocket Sized Medieval Siege Engine by Ethanal



Office Siege Weapons Series: The Traditional Balista by zaro12345



Desktop trebuchet from bicycle frame by Visitor

Comments

50 comments

[Add Comment](#)



spaten0 says:

Um what is a good counter weight if ur in the woods find a downed tree and cut it up the logs will be heavy lol

Oct 18, 2009. 5:44 PM [REPLY](#)



ace117 says:

the longer the arm with the counterweight is the slower the trebuchet will swing, for adjustable range I would make several attachment holes and then test it to see what the range is, the further from the fulcrum you go, the less range you get in the end. if you don't understand this tell me and I will explain in further detail.

May 17, 2009. 1:27 PM [REPLY](#)



aalva93 says:

id like to know how this goes im doing a physics project with some friends and this would help alot

Sep 1, 2009. 8:31 PM [REPLY](#)



dougmhz says:

First off this is an interesting site and I have already found useful info in reading through this post. I have a trebuchet that I am working on and trying to maximize. My end goal is to throw something 300 feet on the fly. It can be anything. I am using baseballs and softballs right now, both of which weigh 8oz. if I am not mistaken.

Apr 9, 2008. 6:31 PM [REPLY](#)

Here are my current dimensions.

total arm length = 6.8' (81.6)

short arm length = 1.36' (16.32)

long arm length = 5.44' (65.28)

sling length approx. 5' (the sling pouch is right underneath the CW when cocked.)

CW box is a 16 cube and is free hanging with 8' drop form anchor to short arm to top of the box.

I have 100lbs of sand in the box and the box weighs about 20lbs or more.

My axel height is 46.

Right now it is throwing baseballs and softballs about 120 feet.

I very well may have to go bigger to get the distance I want but does anyone have any thoughts on maximizing this contraption? I saw the post about not putting the wooden arm directly on the metal axel and I will try to create a bushing with another section of pipe soon.

I m posting a picture of the little beast along and a close up of my trigger which I found inspiration for elsewhere on the web. I have wheels on here but I seriously need to remount them more sturdily so they don't allow the frame to squash down and drag ground.

Keep up the good work.





corey_caffeine says:
for max distance you will want something such as large lead fishing weights

Jul 3, 2009. 12:07 AM [REPLY](#)



DavidMF says:
Axel grease... Use liberally at your rotation point. I built a trebuchet when i was in 6th grade and i used metal on wood also with some axel grease the baby was so much more efficient.

Aug 7, 2008. 7:17 AM [REPLY](#)



corey_caffeine says:
For SCA or LARP groups using a trebuchet as artillery I would like to point out that it would be more of a supression device than team killer.
(load multiple projectiles in the sling)

Jul 3, 2009. 12:03 AM [REPLY](#)



arrowcrest says:
how are you supposed to make the arm, counterweight, and release mechanism? this thing needs to be finished. besides that, this is a very great instructable, keep up the good work.

Jun 22, 2009. 10:09 PM [REPLY](#)



abehambino says:
Have yet to build a trebuchet but have done quite a bit of research on them. what I do know about distance of the counterweight and such is that the ratio of counterweight to ammo should be the same as the ratio of of the length of the counterweight arm and the length of the longer arm(the name slips my mind). Hope this is helpful. I have plenty of more ideas I am working on and would be glad to give advice. Just let me know what you need.

May 12, 2009. 3:51 PM [REPLY](#)



Kilsmer says:
i dont know if anyone has pointed this out before, but if you put the trebuchet on wheels it throws things further, when the couter weight moves it causes the whole thing to rock backwards then forwards and for some reason it gives it extra power.

Dec 4, 2008. 8:11 AM [REPLY](#)



temp says:
that's because the weight is falling more vertically with less side to side movement. This makes it more efficient.

Apr 3, 2009. 2:29 PM [REPLY](#)



Techwiz12 says:
Hey by any chance did you use google sketchUp

Dec 4, 2008. 7:30 PM [REPLY](#)



raul47 says:
Ya i made a trebuchet without wheels and it tore itself apart it was pretty epic

Jan 21, 2009. 4:05 PM [REPLY](#)



Vertigo666 says:
2:1 arm ratio, with the shorter part on the counterweight side. i think.

Apr 10, 2007. 11:34 AM [REPLY](#)



StepsoftheSun says:
I think I'll have to take a poll on the ideal arm ratio (I think the physics may be beyond me). Your suggestion is the lowest I've heard yet--it's gone as high as 5.5:1...

Apr 10, 2007. 10:06 PM [REPLY](#)



Vertigo666 says:
5.5?!
maybe 5:2...

Apr 11, 2007. 10:31 AM [REPLY](#)



daliad100 says:
the ideal ratio is 4:1 I was watching scrap heap challenge (throwing scooters) and the guy who was one of the experts said that the ideal ratio is 4:1 and the judge said 100-150 times the mass of the object which you are throwing on the counterweight end (the shorter one)
Well, the second bit about the mass isn't on the site but I remember it from the show

Sep 5, 2008. 10:25 AM [REPLY](#)



Billythekid says:
can that launch people??

Aug 16, 2008. 11:30 AM [REPLY](#)



hedgiehog says:

May 14, 2007. 5:14 PM [REPLY](#)

Ya i'm making a new trebuchet, well it's a bricole. I found all the wood on the curb, the centre post is a 7' 6x6 the thing is huge...anyway stepsofthesun, how did u load, cock and fire your big trebuchet?



Vendigroth says:

Apr 18, 2007. 8:58 AM [REPLY](#)

what sort of range do you get?
and how heavy are the things you're throwing?



StepsoftheSun says:

Apr 21, 2007. 9:35 PM [REPLY](#)

With the old trebuchet, we were tossing 2.5lb water bottles (sometimes several at once) about 200-250ft up a slight hill. We used about 320lb of counterweight before the thing broke. The range is nothing spectacular but I now understand a lot of the mistakes we made during the build. The arm ratio and lengths were not correct and making the counterweight box's clearance an excessive two feet were some big errors. The new treb should do much better (and throw, hopefully, watermelons and other assorted fruit).



hedgiehog says:

Apr 10, 2007. 6:40 AM [REPLY](#)

LOL, nice to see a GOOD trebuchet up on instructables. I currently have four. And right now I have broken 3 of them. My largest one stood 15 feet tall (including the arm) But my designs were based on parts that I found, so each trebuchet's cost was less than \$10.



StepsoftheSun says:

Apr 10, 2007. 10:18 PM [REPLY](#)

Hah, the Office Supplies Trebuchet was pretty ingenious (and enjoyed by tons of people, it seems). As was the Bike Frame Treb .

Are you ripping studs out of walls or something!? How'd you manage to build them as large as you did for under \$10?



hedgiehog says:

Apr 12, 2007. 10:04 AM [REPLY](#)

I made my largest one out of a 15 year old wooden playground that use to be in my back yard. the 10 dollars was spent on a U bolt and some rope. Everything else was junk from my basement. And the office supply treb is kinda cool but with my trebs I try to go for distance. Oh and my trebs are really low quality not like yours



StepsoftheSun says:

Apr 13, 2007. 12:33 PM [REPLY](#)

Nice choice of materials--playground stuff. You should've put that into the "Use It Again" contest Instructables just had.



hedgiehog says:

Apr 14, 2007. 7:10 AM [REPLY](#)

I never took pictures of building it. And it is a complete death trap. I have it on my family's old wagon so the centre of gravity is high enough that the entire thing can just flip right over. And it is currently broken, the axel for the boom fell off when my friend was fooling around with it, haven't gotten around to fixing it



Hatty says:

Apr 11, 2007. 11:13 PM [REPLY](#)

I made a trebuchet (about 15 feet with the boom and about 4.5 with just the stand) out of bamboo that folded up and could easily fit in the bed of a truck. It actually cost me nothing because I had all the materials. After a few trial launches, the boom broke. It was rotted on the inside so I wasn't able to see it. Now, I'm just waiting for some new beams to dry so I can make a much stronger boom. I cannot wait.



StepsoftheSun says:

Apr 13, 2007. 12:36 PM [REPLY](#)

Cool stuff! Do you have any pictures? Hah, from another comment of yours you seem to be a bit of a bamboo-aholic. Does the bamboo boom bend during the launch? I was wondering if that would help or hurt the trebuchet's efficiency...



Hatty says:

Apr 13, 2007. 10:57 PM [REPLY](#)

Alright. Lets try this again. My last post didn't upload.

This is the link to the pictures I took toniogh of the bamboo trebuchet: <http://sweb.uky.edu/~mahatf2/Treb.zip>

Hopefully you understand how it goes together. In one of the pics you can see the green (still drying) bamboo that I will use for the new double boom (two booms on top of each other).

Yes the bamboo bends during launch, but it doesn't affect the efficiency. And yes, I love bamboo. I have a "forest" of it in my backyard. But, do research before you go out and plant this stuff. It is like a weed and will overwhelm your yard.

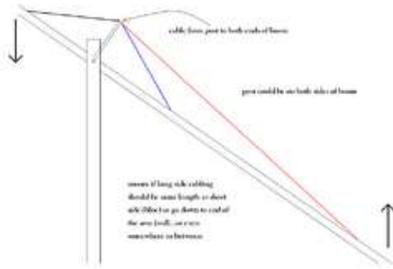
Let me know what you think.



StepsoftheSun says:

Apr 14, 2007. 12:18 AM [REPLY](#)

Er, so the image I just tried to post is far too small, there's no little "i" like I thought there would be, and I can't delete the comment... Hah, so try this next one instead.



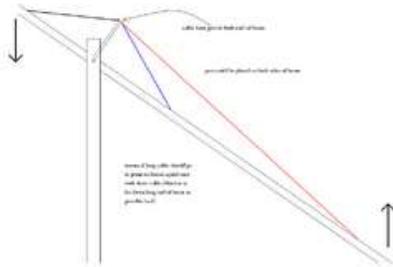
StepsoftheSun says:

Apr 14, 2007. 12:10 AM [REPLY](#)

I never would've thought lashing would work to hold something like that together, that's so cool! Haha, and your paint skills are impressive--I was able to understand the treb setup even without the final image (though that was very informative as well). I also think the third "digging-in" leg is a clever idea.

I totally think you should do an Instructable on this--it seems pretty novel to me and I think many folks would find it interesting (plus we could start a trebuchet/siege engine category).

The image I'm trying to show was a concept I've seen used that (I think) reduces stress on the boom. It may help prevent your boom from breaking again. It might help to click the little "i" in the upper left of the image and then look for the "available sizes" column that will appear in the next page's left side. I say all this cause the font my explanations are in is set a bit on the small side. Anyway, let me know what you think about that (I've never actually tried it) and start working on a bamboo treb Instructable!



curlyfry562 says:

Apr 10, 2007. 9:53 PM [REPLY](#)

cool instructable, I should be finishing mine up next week. One thing that I heard helps range is to add wheels to it, it also makes it a heck of a lot more mobile to.



StepsoftheSun says:

Apr 10, 2007. 10:13 PM [REPLY](#)

Awesome, post it!

I agree for sure; the small hanging counterweight trebs I've made have been seriously improved by just adding wheels. I believe it allows the weight to fall in a more straight down manner so energy is not lost in the rotation. I had, for whatever reason, totally written off wheels for this treb. I thought they'd be hard to make for something of this weight...I'll think about them though, thanks!

Oh, and check out Yankee Siege (the world's farthest throwing trebuchet) for proof that somebody thinks wheels are good--and that the same somebodies know what they're doing.



curlyfry562 says:

Ya, I will post the picks when we are done. What are they throwing in that video?

Apr 10, 2007. 11:18 PM [REPLY](#)



StepsoftheSun says:

I'm not sure but I'd imagine it's something huge. On the Yankee Siege website they talk about being capable of throwing 250lb stones (though that video may have been of a pumpkin). And to get a sense of scale, those wheels are 10' in diameter.

Apr 11, 2007. 8:40 AM [REPLY](#)



T3h_Muffinator says:

Holy muffin sauce, Muffin man!

That's incredible!

Apr 9, 2007. 8:48 PM [REPLY](#)



StepsoftheSun says:

Perhaps the future trebuchet will one day shoot muffins...dozens of them.

Apr 9, 2007. 11:48 PM [REPLY](#)



T3h_Muffinator says:

Now that's what I'm talkin' about!

Apr 10, 2007. 9:33 AM [REPLY](#)



Magistrate says:

Bookmarked!

Keep the instructions coming!

Apr 10, 2007. 6:27 AM [REPLY](#)



sgt.peanut95 says:

wow that looks cool

Apr 9, 2007. 6:12 PM [REPLY](#)



StepsoftheSun says:

Chip in with your critique of the work to make it even cooler!

Apr 9, 2007. 11:52 PM [REPLY](#)



LasVegas says:

Just don't try to open a subterranean vault with that thing! :)

Cool Instructable. I'd have liked to see more complete instructions and more detail of the construction.

Apr 9, 2007. 10:15 PM [REPLY](#)



StepsoftheSun says:

You'll definitely see more construction details! I don't know if I was clear but the completed trebuchet pictures are sort of placeholders and attention-grabbers only. I built that sucker last year and the new one will be even bigger (and hopefully way better!). The new trebuchet is still under construction and I was hoping some fellow Instructablers would lend some helpful criticisms to my plans as the project progresses. Er, my plans, yes, more complete versions will be posted soon.

Apr 9, 2007. 11:51 PM [REPLY](#)