HOW TO BUILD A STICK, TATO STYLE

Pony up and buy from WLS. Barring that, here is how to build a simple, munitions grade legal sword. This guide intends to produce a simple, somewhat durable stick out of easily obtainable materials. Heydeez will probably cry if you swing this at him, but what doesn't make that guy cry anyway, amiright?

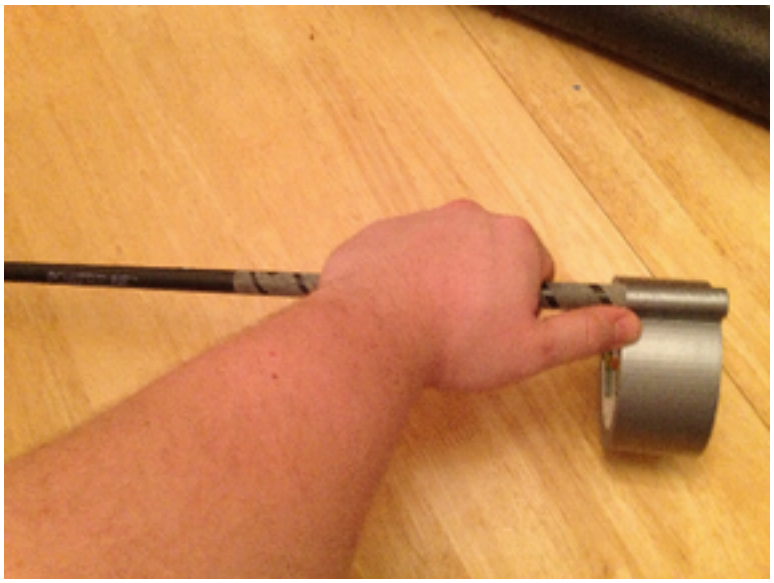
I tend to get about a month and a half from a stick like this, and not only do I hit harder than you but I'm also dead less often so it should last a while. And I'm also humble.

Necessary Materials:

- Core: Pictured here is a graphite golf shaft cut to 33.5 inches. Target length is 35.5 inches. Cutting procedure is not pictured: Wrap a loop of duct tape around the desired area and use a hacksaw on that. Don't skip the duct tape. I use graphite because it's cheap and easy to obtain if you're willing to skulk around some Goodwills.
- Tapes: Packing, Duct, and Grip Tape of your choice.
- George tights, size 4-6. Feel free to substitute your favorite cover.
- Camp Pad - Thick Blue stuff. I don't use a lot of it anymore.
- Pipe foam from Drill Spot. Link here. Never use funnoodle. You are officially forbidden from using it.
- Peel & Stick craft foam. Super cheap, fairly tough, very useful. It comes in a lot of different colors, so when I reference craft-foam throughout this document, keep in mind that it might be different colors, but it's the same stuff.
- Measuring stuff: Ruler, Tape, etc.
- Cutting stuff: Scissors and some junk serrated knife that you won't be eating with.

Phase 1: Building a Handle

I build my handles with duct tape. Because it's probably the cheapest and most accessible way considering that I'm using a tapered core. There are other ways like hot-gluing PVC, or gluing on routed wooden half-rounds. I'm not sure about the reliability of these methods on a tapered handle so I just rock out and duct tape it. Here's a photo of the beginning:



Basically you're trying to wrap the tape around the core such that there are no wrinkles, while aligning the edge of the tape perfectly up with the edge of the core. Practicing this taping technique can be fairly difficult. Here is a link to the video of me applying tape, just in case it helps you.

When you build your sticks, you definitely want to identify a 'sweet spot' in terms of handle-thickness.

It's pretty easy to figure this out. Just take a basic circumference measurement with your measuring tape. Don't guess at this stage, but rather take the measurement of a sword you really, really like. Don't cut this corner or you're going to come up with something you're

unhappy with.

If you make your handle really thick, you're going to have to make some changes to how your build your stick. You'll have to read the document and figure out what those are because just do it exactly how I do it because I'm popular and everyone likes me.

Once you get your original wrap up to the desired thickness, start the next wrap.

You want to line your taping right on the edge of the first pass, and achieve the same circumference. When you're done with that, it should look like this:

You can see how there's not much of a joint or notch between the two passes of tape, but if you look closely, you should be able to see that there are two wraps of tape spooled evenly onto the core, snugly next to each other.

If you look closely, you can also see that there is a little dog ear in the top right part of the second pass. I didn't notice that. Don't be lazy and do that like I did.

All you need to do for the rest of this stage is continue doing this for five different passes. Below are some pictures that demonstrate the process and the kinds of results you should see at each stage. You're shooting for five loops:

I neglected to take a picture of the fifth pass, but you should be able to get the idea. If you want to extend your core, go ahead and add more loops. This is probably only relevant for longswords, where you might add a sixth pass, or a two handed sword, in which case you might add a seventh pass and then leave the ditch.

That's it for the handle phase. Fairly simple. This usually takes the longest out of any part of the process, but the good news is that once you're through this stage, you have a fairly permanent fixture on which to build replaceable blades. Sometimes your pommel will wear out, but that's usually fixable too. Barring core snaps, you now basically have a permanent piece of equipment, which is why it's so important to come up with handle diameter you're comfortable with. Keep in mind, it's better to build your handle small, you can always thicken it up. Shrinking a handle by peeling off tape is possible, but it's going to take a really long time.

Next up is the Pommel phase.

Phase II: Pommel Phase

Grab your pipe insulation, you want to cut yourself a good pommel:

I use the section of duct tape to measure the length of it. I typically get my pommel foam from the middle section of old blown out swords. You can make your pommel bigger or smaller but I tend towards this length because it creates optimal surface area to tape down the pommel, and is big enough to be legal.

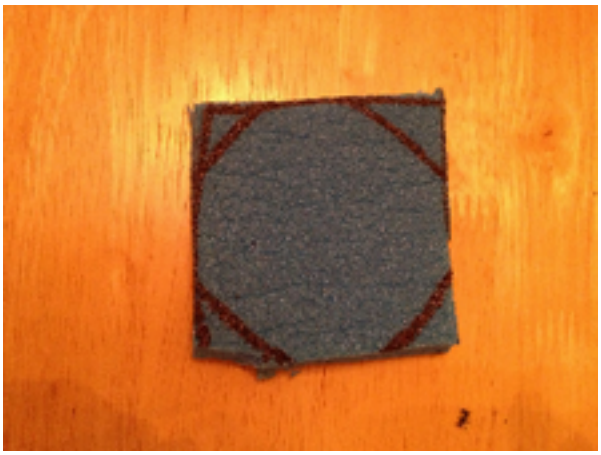
Next you need a cap. I tend to use blue foam.

This is how I draw octagons because I'm super careful.

Gaze upon its pristine beauty.

You can see how I haven't traced the circle, but rather I've created a rough octagon around it. You want an octagon because when you tape the foam on, it tends to compress, so the extra corners keep it a legal size.

Next you want to cut it out, and put some stickable craft foam on the the back. This step is entirely optional, but since the craft foam is thin, easy to work with, and tougher than camp pad, I like to use a skin of it on the pommel.



Don't cut it the whole way out yet, you need to stick it to stuff.

I folded the camp foam over so you could see what I'm working with. You don't need to do that.

You really want to measure the cap piece and cut it before you peel away the craft foam. If craft foam sticks to itself, it's really difficult to get it back apart, which is partially why I use it. The other reason is that it's pretty dense, and because it's thin, it has multiple skins which enhance it's toughness. You'll see this come into play more during the stabbing tip, where I use a ton of this stuff.

Note that this isn't a ton of foam, it's about ⅝ inch. If you are in a park that has a higher emphasis on safety, you will need more foam. Personally if you're pommeling people in the eye you should probably just stop because it's just not a wholesome practice.

Just one layer here. These make it a little tougher.

Trim it.

Then neatly sign your name using calligraphy. So that they don't steal your swords at Spring War.

Yeah except Spring War is still going to steal them. This isn't going to help.

The next part is attaching your pommel cap to your pommel base with tape. It is far easier to do this first, than to try to attach it after you've secured the base onto the handle. You want a nice plain wrap that will give the foam a skin and prevent it from falling apart while you tape it. Just layer it on evenly.

Next, you want to trim off the very top corner to promote a good torque wrap onto the handle. Stripping off just a little foam at the top will help the foam compress evenly as you fix it to the handle:

Trim the top portion just a little bit. I made exactly 4 cuts with a pair of scissors here.

Then slide it onto the handle. This isn't taped on yet, but it's starting to look like a stick!

After that's all finished, the next job to torque wrap the pommel onto the handle. You're starting at the pommel and taping tightly as you wrap continually down the pommel to the handle. Then you reverse the taping, and wrap it again. There is an art to this, and it takes some practice, but [I have a video of my taping technique available here.]

Starts like this.

Ends looking like this. See the video for the middle stages.

So your pommel should be done. Hard part is down. The next stage takes more description but is probably the shortest stage. Making the blade!

Phase III: Blade crafting. I.E., the boffy end.

So, by now, you should have secured pipe insulation from Drill spot. Link at the top. The first step is to cut that sucker to length, like so:

You want it exactly as long as the section of core. We're not doing any tip building voodoo here by making the main portion of the foam longer than the core. That causes excess wear on the sword's 'sweet spot' by the core applying shearing force where the core ends and the foam doesn't.

The next step is to prepare to build the tip. We accomplish that by sliding the foam down onto the handle. It should fit tightly over top.

Push the foam down until it covers the line. Not necessary to mimic the line. Just a reference line.

Notice how we have 3 bands of duct tape sticking out, instead of 4.

This is the step where you'll pay for making your core too thick. Essentially you'll have to make a few slits around the edges of the hollow cylinder of the foam. You shouldn't need to hollow it out much. I would prefer that you simply make a decent sized handle and stop pretending that a larger handle helps your arthritis. Pony up, see a doctor, amputate if

necessary.

This is the result at the other end of the stick:

Notice how my cut is not exactly perpendicular to the core. *This is a mistake*. Don't purposely cut your stuff like this. This degree of slant isn't going to impact the life of the tip too much, but it's certainly not ideal. If you use stabbing a lot in your fighting (I stab somewhat rarely) pay special attention to cut your core correctly.

Next, you need to break out your peel and stick craft foam. You need two tiny squares, and one larger rectangle.

You can go ahead and eyeball this step, the dimensions of this are going to depend a lot on the size of your core. The width of the rectangle should be the same width as a piece of tape, like just about everything else. This one is a little narrower, but it doesn't matter too much.

The little squares just need to be larger than the tip of the stick, we're going to trim them down. Apply them like so:

Peel them on, and stick them to the tip.

Trim it down so it's pretty flush with the stick tip. I may have cut it a few more times. This time you actually want it fairly flush.

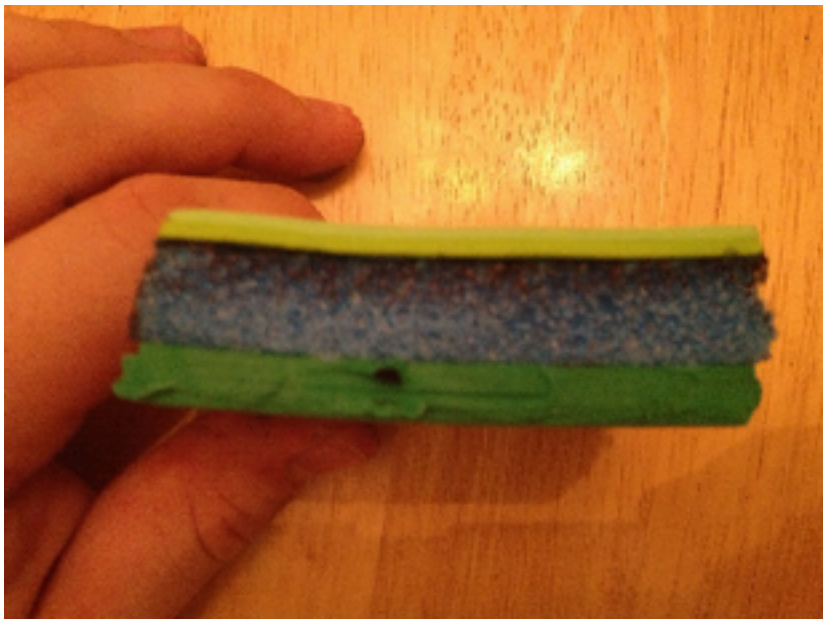
Next you want to take your rectangle of craft foam and stick it on. You want the edge of the rectangle flush with the very tip of your foam. It's going to get wrapped around such that it supports the top portion of the stabbing tip.

Next, wrap it around nice and tight. You also have to give it a really good squeeze so that it sticks on. You can sort of still see the indentations from my fingers on this.

Then, slide the black foam up away from the handle so that it encompasses your new tip. You can see how I decided that this wrap isn't tight enough, so I added a little more foam. Moral of the story is, do things right the first time before you take photos of them, but adjust if you messed up. You want some serious snugness here.

Next we're going to build the actual stabbing tip. I skipped some steps here because it's exactly the same as building the base of the pommel, plus a few more layers of craft foam. Refer back to that section if you need to, but if you didn't learn it the first time I told you, you'll never be a serpent knight, so in your face.

This is what you want to end up with:

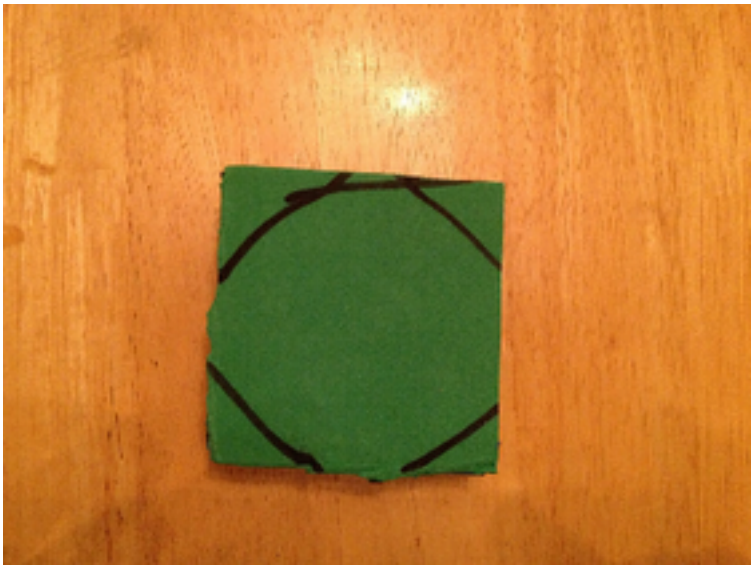


Ignore the black dot, that's just from a sharpie. You want two layers on the opponent-facing side (light green, for your reference because I'm a stand-up guy like that), and four layers on the core facing side (dark green, preemptive apologies to the color blind, because I'm not very considerate.)

As an optional step, you can pop some fiberglass tape on the underside of the foam if you want to increase the lifespan of the stabbing tip. I feel that this doesn't do a whole lot, but

such a small amount of tape isn't going to increase weight much. And if it does, drink more protein. Two scoops, get huge.

Next step, make an octagon:



I trimmed this down a little neater than it's drawn on, but what I'm trying to drive home is three key points:

1. Make your tips a little bigger than the pipe insulation so that the compression doesn't render them too small. Casual fighting in the parking lot, I don't care what you swing at me, but on the event/park level, be a stickler for safety.
2. Use the actual pieces of the weapon to make your measurements so that you don't end up with a wasted product. This is exactly the opposite of selling equipment on a professional level, where you want to throw out a crappy weapon. On the personal level, don't waste your money. If you hate your finished stick, give it away to a newbie.
3. I really hate making sticks. Buy from WLS.

Next we're going to fix the tip to the core, and neatly create a skin of clear tape. This lengthens the life expectancy of the sword by a huge amount. This is a little tricky and takes a little practice:

Lay the tip next to the sword. This is another time when hexagonal pieces really helps out, because the tip won't roll away from you like so many order of the warrior that you've failed to acquire. No more, my friends, no more.

Note that you may want to DAP the tip on if you're fighting in cold weather. The adhesive on the tape can freeze and the peel off like a banana.

It is really important, when working with this type of foam, to tape the seam first. TAPE THE SEAM FIRST. Do not fail in this regard. This kind of foam comes with some glue, which is adequate when sealed, but not adequate when left unsealed. In my experience, the seam blows around the same time as the rest of the foam when you tape it in this manner. If you're worried about it, go ahead and use DAP to seal the thing shut. Or buy it from WLS, because they're cool and they do it for you, and working with DAP sucks.

Tape down the length of it slowly and carefully. You're looking to seal the foam with a skin that it has no wrinkles.

Those are sword building arms, son.

You're going to continue to tape in this manner around the entire circumference of the sword. Each layer of the tape should go on perpendicular to the stick, and slightly overlap the last layer of tape. This is why we taped the seam first - it is now the bottom layer of tape, and is held down with maximum secureness.

For a video of my taping technique, I've made a video for you here. You'll see that I spread the tape, then run a finger over the middle part of it, then smooth it out evenly on both sides.

After you've finished the stick, compress the entire surface of the sword with your manly, protein engorged meathooks. This lets the tape grip the small recesses in the foam, and gives you a more secure hold. Do not skip this step, or the tape will peel off and you'll be fixing your stick in twenty minutes.

Now we're in the final stage of construction: We're going to secure the blade to the handle using the same technique we did to secure the pommel:

This is the end of the stick I'm talking about

Trim it down ever so slightly into an octagon. Apologies for the bad photo. Refund Apple products, buy WLS.

Just in case this isn't clear, here's a video of not only securely fixing the blade to the handle, but a short documentary of proper levels of protein consumption. Re: My sick guns.

After that, there is one more important step: You want to do a quick, mild compression loop around the tip of the sword where the tip joins the blade, and in the middle of the blade. This prevents the tape from releasing like a banana peel, which is unacceptable because bananas don't have protein, and illegal swords are no fun.

It may be hard to see, but this is a perpendicular loop around the middle of the sword.

Again, the clear tape makes it difficult to see, but this is another compressive perpendicular wrap around the blade's tip.

Next, you want to gaze upon the glory of your completed stick, and also add bells and whistles.

Those are the toes of a champion.

And now it's legal!

I like lighter colored covers because it turns night-fighting from "first guy to swing wins" back into to fighting. I also used rubber grip tape on this because it works better with lacrosse gloves than athletic tape, which works better with century/bare hands/bear hands.

Aaaaaaaaaaaaand you're ready to hit your buddies. Enjoy.