How to Make a Boffer Short Sword

By Dean Hitchcox

Intro:

A boffer sword is one of the easiest weapons to make and is perfect for beginners. There are a lot of steps to making a sword and it may seem daunting. But much of the process is repetitive and will start making sense once you get started. At the end of the tutorial there will be an extra section on making claws, staffs and simple axes.

In SR you need Open Cell tips on each end. The tips include 2" of open cell foam and extra inch of the closed cell foam. So if you want to make a 35" weapon (Tutorial is 30" btw) you take the 35" and subtract what the extra foam on the tips will add up too. So 1" for each end for the closed cell foam (2 inches total), then 2" each end of the open cell foam. The open cell foam can also be 3" deep depending on the thickness that you got. I find that 2" works with the best balance of being safe and not flexing out of shape. So add 2" each (3" each if the thickness is 3") bring the total to 6". 35-6= 29". For a 35" weapon you want to cut your pipe to 29".

Needed Materials:

- Sharp exact-o knife
- Replacement Blades for the knife
- Proper Sized beige pipe; in this case ¾"
- ¾" Black insulation closed cell foam
- Open Cell Foam also known as couch foam
- Duct Tape of colour of choice
- Double Sided Tape (DST) also known as carpet tape (Outdoor)
- Hockey Tape
- Clean Plastic Cutting Board
- Plastic Bag; grocery, garbage...
- Hack Saw or other means of cutting the Pipe to length
- Sand paper or other ruff surface for dulling edges with

Steps:

1. Right we are aiming to make a 30" Sword. Cut your 3/4" pipe to accommodate the extra foam that you will be adding. Which is 1" closed cell, then approx 2" for the open cell foam equals 3" per side, there are two sides equals 6”. 30" minus 6" meaning cut the pipe at 24” as shown.
2. After you cut the pipe it will have a sharp edge. You will have to round off the ends of the pipe so that the pipe will not slowly cut through the foam tip. Extending the use out of the weapon. This is the only time you will need the sand paper.

3. Ripping the tape is fine, but for looks and durability it is better to cut it with your knife. This will make cutting exact lengths easier. The small piece of tape cut out here is to cap the ends of the pipe. This will be to hold the foam end caps later. Use your palm to evenly put pressure to bond the tape. Doesn’t have to be pretty no one will see it. Cut a small hole in each end to allow for air to expand with temperature. A half centimetre is more than enough. Do this for each end.

4. Time to make the waylay tip. I'm not showing the minimum just the easiest length. 2" to cover the pipe, 1" extension past. Note that a standard roll of duct tape is 2" thick.

5. The non-Double Sided Tape way is to take a length of tape, (red to make it easier to see) about 7-10" is fine, it is so that you can go around once then double back over. Exposing the sticky side. NOTE: DST works exponentially better.
6. For 3/4" pipe, take 3/4" foam. Start at one edge, and then move it around to close the gap. Remember to leave the 1" past the pipe. Remove the yellow plastic covering the strips of glue and the first layer is done for the waylay tip. You will eventually add a second layer but not now.

7. Time for the cross guard. Cut out two lengths of the 3/4" foam. About 1-2" longer then what you want it to be. Take one length and cut out about 1/3rd of it so that you can roll it up and insert it into the other.

Seal it, to make the solid tube.
8. Tape the part where the two ends meet. There is some force wanting to separate the top layer at the seam. Start at one corner, and then lay down one long strip of tape. Slowly curve over the rest at one end and work your way down. This will give the nicest finish and with some practice get the tape perfectly flat.

9. Now take some more pipe (The remainder of the pipe that you are not using) and place it dead center on the tube you just made. Rotate it to cut a hole through the tube. If you start getting stuck, pull out some of the foam or use a knife. Use the pipe as much as possible for the cleanest circular cut. If the far right happens use the knife.

10. Now that you can place your cross guard. You have to decide how much of a hand grip you want. Typically 5" is good. Though you can make this to preference. Mark it with some tape or a sharpie.
11. Take some DST and wrap it around where the cross guard will go. Peel off the plastic cover. Then quickly with a slight twist get the cross guard over the tape and press down to seal.

12. Now take a length of tape to further hold down the cross guard. Slowly lay the tape down. From the foam first then to the pipe. Cut tape on a 45 degree angle to make the transition clean.
13. To size the cross guard 3-3/4" works for me. Usually the length should be wider than the blade for looks (1¾” using ¾” pipe). This is all preference. Do both ends the same distance to make symmetrical. The goal is to be wide enough to catch strikes that slide down the blade, but then thin enough to not hinder movement.

14. Cut the ends of the cross guard at a 45 degree angle about 1/4" in. Rotating all around for both ends.

15. Now to start the blade. For the cross guard to merge with the blade you have to cut out a slightly rounded portion of the foam. See how nicely it will fit. This is just temporary placement. Measure an inch past the pipe and cut the foam. Then remove the foam for the next step.
16. If you don't have DST, you'll have to do the trick with the waylay tip. Just have to alternate rotations of the tape as shown. 4-6" gaps are alright. But MUST have them where the blade meets the cross guard and again at the tip of the blade. Preferably you can use DST. Here I missed measured by an inch, but it is all good. Note: DST is still exponentially better and is highly recommended over the double back with duct tape way.

17. Peel off the plastic cover and then lay another piece of DST to coat the shaft. Peel it off.

18. Carefully from the bottom up. Put the foam on that you cut in step 15. Remove the yellow plastic. Remember the 24" pipe. Added 2" of foam, 1" at each end, and behold its now 26".
19. Now to finish the foam on the waylay tip. Here you will need some DST or you risk the second layer sliding a bit. One small strip will work perfectly. It is not like it is going to get the force that an arrow would. Cut out a matching length of foam. Note: If you used ½” pipe and ½” foam for smaller weapons 1-1/4” foam will go over perfectly. But since I’m using ¾” pipe, which is best for weapon 24”-40”, you will need two pieces of ¾” foam. For using two pieces remove 1 strip each of the yellow plastic and merge the 2 pieces of foam.

20. Now remove the plastic coating on the DST. Use half of the DST to start the foam which moving the layer around. You have some excess foam. So you will have to trim it.

21. Take your SHARP knife and 2-3mm back from where the end would meet. Cut straight down and merge the ends on the DST from above. A square end looks bad, and doesn't work well for function. So trim off a little on an angle about 1/3"-1/2" back to the pipe. This will give it a better look. This will fit the wielders wrist much better than if it was just square.
22. Now for the second layer. I leave about 1"-2" of space between the cross guard and the blade. This gives the sword a better look while not compromising safety. This also helps the sword stay in a weapon frog. Cut at a 45 degree angle around the second layer. The process is exactly like the waylay tip you will need 2 lengths; the overall length is just longer.

23. Just like step 20-21. Note that you still have the gap at the end of the pipe. The red tape is clearly visible.

You've almost completed the basic framework of the weapon.
24. Like filling the cross guard you need to roll up the foam to stick in the ends of the tips. Extending the pipe so that there is no gap at either end. Push the roll all the way in the end. Trim off excess with your knife and then do it again for the other end.

25. Now to start covering the weapon with your colour of choice. See your LARP guide for what colour represents what and make your weapon appropriately. In the corners where the cross guard and blade connect there will be a tape gap when you cut the tape to be flush. So cut a piece of tape and lay it out on your CLEAN cutting board. Use your knife to cut out about 1/2” off the top. (1/4 of the width). Then on the bigger portion start cutting out strips about a 1/4” wide. These will be used to help secure the open cell tips later as well and the gaps that we are working on now. Pull them off and stick them for easy grabbing. Now take one, and have it cover the joints as shown. Do all eight corners.
26. Now lay a piece of tape over the top of the cross guard. This will be the first thing coated. Note that it starts partially up the blade and ends over hanging the end. Cut the end of the overhang into 3 sections to make the tape go flush to the foam. Doing so looks much better than just flapping it over. I also made a 45 degree cut on the joints. Wrap the ends over. You can see the gap that is there. That "should" have been covered with the thin strips from step 25.

27. Lay out a piece of tape across the cross guard. Overhanging towards the blade by about an inch. Do the 45 degree diagonal cuts at the joints like before and smooth over. (Better pictures in next step examples.)
28. Same thing as to the blade. Lay it out, make the 45 degree cuts. Continue to do the 3 point slice at the ends to fold it over. Do the same thing on the other side as per step 26.

29. Now for the tips. It is the same for each end so don't get picky about it. Take your Open cell foam that is 2”-3” thick. I prefer 2” unless it is a spear, and trim down the 3” stuff to my liking. From before, 24” pipe, 1” x2 for the ends, then now another 2” x2 making us our 30” weapon.

Using your SHARP knife or sharpie pen mark out the square that the weapon tip will take up. Use scissors or your knife to cut out the square. You might as well make two.
30. Now since your boffer will be round, you need to round off the square or it won't look right. Take off about a 1/4" off an edge. Do this three more times for each corner. The top tip is still square so trim off another 1/4" around the top like you did the sides of the cross guard.

31. Now you have a sword tip ready to be bagged. Take your plastic shopping bag or garbage bag and wrap the bag around the foam end. I'm using one of the clear blue bags for recycling so that you can see the foam underneath. But it's all good. Next scrunch up the foam inside the plastic slightly so that it is about half of its original size.

32. Twist the bottom, and then cut the bag about a 1/4" from the foam. And you should have something like the middle picture. Now center the tip on the weapon. Doesn't matter which end you are going to do both eventually. But for this example I am doing the thrusting tip first. Pull down on the plastic only, on opposite sides. So that the plastic is tight on the foam, but without squishing the foam any more then 1/8" MAX. Otherwise the tip won't work as well as it should.
33. Now using more of the small strips of tape from earlier (Step 25). While holding down the two sides. Tape the plastic in place without letting go. This will keep the tip centered and the right shape. It is much harder to re-center the tip if you try and re-adjust later. Then do it again for the other corners.

34. Now to coat the blade. Measure a piece of tape to go from ¼” past the thrusting tip to about an inch below where the second layer of foam ends.

35. Start with the 1/4” past the tip, and then go flat on the plastic. Then lay down only the one edge.
36. Let the tape hang loose and roll over the tape at the tip. Leave the ¼” overhang by the tip. Now slowly roll over the rest of the tape. Start at the tip then work your way to the cross guard.

37. Now for that overhang at the tip and cross guard. Same as the ends of the cross guard. Cut the overhang into 3 strips. Then fold them over one at a time to make that edge even and nice.
38. Now for the next length of tape. Do the exact same thing but have a 1/4" overlapping of the tape. Repeat as necessary steps 34-37.

39. Now that the blade is covered all the way around there is a small gap at the point of the tip. If you were to have more then 1/4" overhang and those ends fully covered the end then there would be too many layers of tape making the tip too firm and slightly unsafe. To complete the top take a square piece of tape (2” x 2”) like you did for the ends of the pipe. Use your knife because you will see this. Place it on and carefully roll over the ends so that it is nice and even. Now take a pin or my personal favourite a seam ripper and poke about a couple hundred holes in the tip. Only where the open cell foam is. If you think you have enough holes, take the tip and... Jab a few more holes in it. Then test then end on your arm to see how soft it is. Poke more holes as needed.

40. Now do the exact same thing as steps 29 to 39, for the waylay tip this time. It is NO DIFFERENT than the blade. Only different in your mind. Couldn’t help myself.
41. Now for that small gap between the second layer of foam and the cross guard. Cut a strip of duct tape thin enough to fit between the second layer and the cross guard on your cutting board. This IS the only time you can wrap tape the other way AND only go around once. With a slight overlap of ¼ inch. Only one more thing remains.

42. Now to wrap the handle. There are many methods but this is the simplest. Take some hockey tape and wrap the handle like your wrapping, well a hockey stick. Yup that simple. and...

43. YOU ARE DONE!!!
HTM boffer basic Claws:

They are the same as the sword tutorial but with no cross guard. Finish off the end where the cross guard would be as you would the waylay tip.

HTM a boffer Staff:

Staffs are the same as the claw tutorial just has the extra step of measuring where you want your hand grips. Also note that you must use at least 1” thick pipe.

1 - Taking the pipe after it has been cut to the desired length; see where you want your hands on it. Use it like you would your staff (be careful not to hit anything!)
2 - Give an extra 1/2” towards the middle from your index finger and mark that with a small piece of tape or via a marker, ether a pen, sharpie or strip of tape.
3 - Measure from that point to the closest end (x). Mark the pipe to length x from the other end (y).
4 - Now you know how big to make the center foam piece. From x to y
5 - Measure out 5” per hand grip (or your preference to 5”) and make the rest. Two layers of foam is fine.

Simple Axe Explanation:

An axe is just a sword without a cross guard, with the thrusting tip being way over sized. Cut out the shape of the axe head that you want, coat it in plastic like a normal tip with some finesse. It is alright to use many pieces of the plastic to fit like puzzle, as long as the open cell foam is fully covered. Use an extra layer of tape where the open cell meets the closed for durability. Only have the plastic bag over lap to the close cell foam by 1/4", so that the tape can hold it in place. And you are done. Without the cross guard treat the shaft of the axe/hammer/spear/mace/club where it meets the handle the same way as the waylay tip. Also note that the axe head should be connected to the shaft and not just beyond the pipe.

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