



## Off-Center Spiking Made Easy

Off-center spiking is a less common method of stringing canister shells that offers several advantages over the more popular radial method. The off center method avoids the pileup of string around the time fuse that the radial method produces, which causes unwanted air gaps under the paste wrap of both the top and bottom of the finished shell. The stacking layers of string become even more pronounced on larger shells, and result in a conical lump toward the center of the finished shell. This central buildup becomes even more of a problem when stacking multi-break shells on top of one another, since the lump prevents one shell from sitting flat against the other. This can cause the shell to rock to the extent that it must be shimmed to keep it in line with the other breaks when spiking.



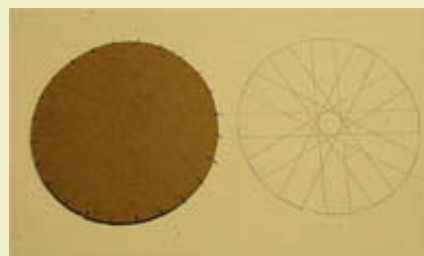
Off-center spiking on a 5" shell.



Note how flat the string lays on top.

The off-center method produces a very flat top and bottom that is ideal for stacking shells and attaching comets. However, this type of spiking is not one that can be visually spaced out, since there are no quadrants or perpendicular intersections of string for visual reference. Unless you can gauge 10 degree angles with your bare eyes, you are going to have to mark your end disks where the vertices will be. This sounds worse than it really is, since you can mark 20 or more disks in parallel using the method shown below.

First create a template disk by measuring out the edge points that correspond to the number of verticals for the size shell you are building. I use CorelDraw on a computer to accurately make the marking template image, then print it out. Some people even cut out the image from a printout and glue it right onto the end disk. The method shown here is quite faster though, and you don't need to see where the strings will cross the top of the shell, only the edge points. You only need to create this disk one time, then use it as a template for marking all other disks.



Making the template disk.

Now take your template disk and use it to mark the edges of two more disks. The marks only need to be on the edge of the disks and not on the face of them. These two disks are then placed on a large stack of disks, one on top and one on bottom. They are arranged so that the marks will line up with each other when a ruler is placed at right angle to the table. A straight edge and felt tip marker are now used to connect the marks from the top disk to the bottom disk, thus marking all the disks in between. Care must be taken not to rotate the disks when working, as it is difficult to realign them. A bar clamp can be used to clamp all disks firmly together at the edge of a table to prevent this shifting problem.



Marking many disks at once.



Make sure top and bottom disks line up.

With your marked disks glued in place, make sure that the disks are aligned so that the marks are directly across from each other. The time spent marking your disks will now pay off in rapid and precise no-brainer spiking. Your first loop is important to get right though. Pick a mark and string down to the bottom of the shell. Now find the mark that is directly across from where your string is, then string to the first mark to the right of that point. When you string back up to the top of the shell, you will do the same thing except you string to the first mark to the left of the center.



Right of center on bottom.



Left of center on top.



Pattern always skips a mark.

Now you continue the same rule over and over- right of center on the bottom and left of center on the top. This will form a pattern in which every other mark is skipped. Eventually the pattern wraps around and you fill in the empty spots and finish up exactly where you started. Finish the horizontal spiking the standard way as described in the [spiking basics](#) tutorial. 🔥

