

Cutting Bowling Balls on a Band Saw

Alice Call

Disclaimer: Before continuing, I want to say that cutting bowling balls, no matter how careful you are, can be dangerous! It is not something to be entered into without thought and careful preparation. These directions are given free of charge and I am in no way responsible for injury to anyone or damage to equipment from the use of these directions. Continue at your own risk.!

These directions are written mainly for acrylic bowling balls.
You can cut the Ebonite ones, but be warned, they KILL your blade!!!

I have cut about 8-10 bowling balls and each one has been different.
The newer balls have very nice crunchy hard foam inside which make them easier to cut. These are by far the best to start with!! The center is easy on your blade.
Then there are the centers that resemble fine chipboard of various kinds and colors. This type of center is harder to cut and can dull your blade.
As they get older the centers are denser and look more like MDF. These too, are harder to cut and dull your blade.
Then there are the stinky ones, the Urethane and the Ebonite Rubber!
I tried to cut a Urethane ball and it smelled like burning oil! The saw would not even cut this one! That one went in the trash. This one had "Urethane" written on the ball.
Out of 2 Ebonite Rubber balls, one had a very hard cork type center and the other one had a continuous rubber center. I have been told that there are other black bowling balls that are not Ebonite but the 2 I have tried were both Ebonite Rubber. Ebonite balls smell like burning tires!!!!!!!!!!!! They are usually black or black with colors swirled throughout.
Check the finger holes to determine the thickness and sometimes you can even tell what the center is like.
Do not get a bowling ball for cutting if the outer material is less than 1/2"!



Items needed:

- A band saw. Mine is a 14" I assume that a 12 " will work
- A bowling ball. Please start with an acrylic one.
- A cupped base for the ball to set in. This can sometimes be found in the Bowling ball bags. This MUST be plastic or wood not metal! A base is absolutely necessary!!!!
- If you do not have a plastic base you can turn one out of wood to fit the curve of the ball.
- A scrap piece of wood about 15" x 8"
- A strip of wood 8" x 3/8" deep x 3/4" wide for the runner
- Spring clamps x 4
- A small piece of non-skid material

Most might think that it is necessary to first cut the bowling ball in half. Actually all that is necessary for the first step is to cut a portion off, let's say, around 1/5 of the ball. This then gives you a flat surface to continue cutting the ball.

A Simple Slide

First you need to make a simple slide for your band saw
This is made with a 15"x 8" piece of 3/4" chip board. Any type of wood will do.
On the back is a strip of wood 8", 3/8" deep and 3/4" wide. This runs in the miter gauge groove.
The runner is attached with glue and screws to the back of the slide about 3 1/2" in from the right side
The third thing you will need is a plastic or wooden base to cradle your ball in.

Place the runner in the groove.

The plastic or wooden base is placed on the top of the board so that the blade cuts a portion of the right side of the base off, but not enough to disable it. This is only happens with the first cut. I attached the plastic base with a screw.



#1

#2

Cutting The Ball

Place your slide in the miter gauge groove. You must use a piece of non- skid material under the ball.
Place your ball on the cradle with the finger holes to the right. Picture#2 Your blade should line up to cut off about 1/5 of the ball. On the first cut you will also cut the edge of the cupped base. This is ok.

I place my fingers on the OUTER rims of the holes.

PLEASE DO NOT stick your fingers inside of the holes unless you do not need those fingers!!!!!!!

Turn your band saw on and slowly advance the slide and the ball though the blade. Go slowly and hang on to the ball! Even with the non- skid material the ball wants to ROTATE. It is VERY important you do not let it rotate. Continue until the piece is completely cut off but DO NOT push the slide completely through. If you do you will ruin the slide. The red outlines the cutting path of the blade. Picture#2



#3



Picture #3 was taken before I made the slide, but shows how the ball looks after being cut.

At this point you can turn the saw off and remove the ball and back up the slide.

You now have a portion of your bowling ball that is manageable to start cutting for your pens!

Since the remainder of the ball has a flat side it is easily cut in slices on the band saw.



Cut the small piece in slices. The usable material of the ball varies in thickness. It goes from 1/2" all the way in Ebonite to 1"! The slices should be cut at least 1/8" wider than the thickness of the material. This extra width gives you extra material for squaring up the piece on a belt sander.



Score the inner material with the band saw and remove as shown in the pictures.

Cut the curved section in pieces approximately 3 inches long. Use the curved end of the belt sander to finish removing the center material as in the picture. Wrapping sand paper around a wooden dowel could also do this.

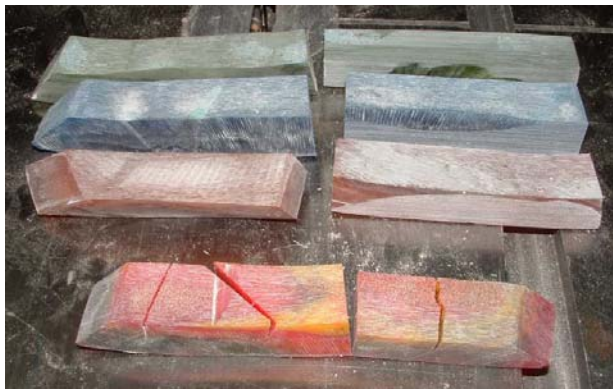


Straightening Those Pieces!

Sorry, but this process does not work on Black Ebonite Rubber or Urethane bowling balls! This is only for Acrylic Balls!!!

The usable outer shell of a bowling ball changes depending on the brand and age. Not all bowling balls will straighten! Some do not get flexible enough and will crack no matter what the temp or time.

Cut your slices in pieces no longer than 3 inches to lessen the possibility of cracking. Place these pieces in the oven at a temperature of around 190 degrees. Leave these in the oven for about 10-15 min., check the pieces in 10 min. If they are flexible, take them out of the oven one at a time. Place the piece on a board and clamp one end pull the other end down and clamp. Let these cool and you now have a fairly straight piece!



I then work on squaring up the side of the blank on a belt sander. Make sure the ends are also square.

The blanks on the right side of picture are after being squared up with a belt sander. On the left are the blanks before squaring up. Here's where the extra 1/8th inch width comes in handy!

Squaring up the blanks makes drilling easier. If you do not have a belt sander try rubbing them on a piece of 80 grit sand paper.

The blanks in the front are examples of cracking while attempting to straighten.

Well that is it! I hope this makes it easier if you decide to cut up that favorite bowling ball. Have fun and be safe!

Alice