



# INTRODUCTION TO BOTTLE CUTTING



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### **I Introduction**

Recycling and cutting bottles has never been so much fun. Our novel bottle cutting tool is all you need to carve out your bottle into any shape you want. The only thing that will limit you here is your imagination. You can use it to make beautiful and useful items that can be used for a myriad of purposes. You can even make an excellent gift for your friend’s next birthday.

In the following pages, we will introduce the main features of the bottle cutter. Next, the steps on how you can use the bottle cutter will be explained. Finally, some suggestions as to what kind of items can be made are given.

Read the instructions carefully before attempting to cut a bottle.

## **II Start Your Environmental Life**

Recycle glass bottles and jars and create functional art at the same time! Create your own glass sculptures, sun catchers, and ornaments easily with this bottle cutter. Sturdier and easier to use than plastic models, this highly durable metal bottle cutter will help you cut bottles perfectly in 4 easy steps. Cut even the hardest of bottles, such as those containing champagne, and carve out items without even a single scratch. Although the glass bottle cutter takes a bit of time to get used to, once you've got the hang of it you'll be able to cut any bottles easily.

It is the perfect way of recycling empty bottles and thus the bottle cutter is the ideal tool for you to play your part in keeping the environment clean.

## **III Etching Tool Requirements**

The basic requirement of the etching tool, of course, is to scribe a single continuous line on the glass bottle.

To achieve this, firstly make sure your glass bottle is suitable for our cutter. The cutting length of our cutter (from bottom to cutting point) is 2" to 8.3" and the cutting diameter is 0.5" to 2".

The following features must also be met:

- The cutting blade must be fixed before use.
- Adjust the blade to an appropriate point and don't move it any more.
- The cutting blade must be perpendicular to the glass at all times.
- It is necessary to keep the etching straight.

## IV Hints and Cautions

- Brush some light machine oil on the cutting wheel prior to cutting.
- The lighter the etching, the better the separation.
- For best results, keep the candle flame out of draughts.
- Do not cut over labels.
- The glass cutting wheel should always be at a right angle to the glass surface.
- When the cutter seems dull, loosen the cutter screw and turn the wheel until the new blade is in the cutting position.
- Always wear eye protection while working with glass, and remove the bottle cap before cutting.

## V How to Use

Let's cut a bottle to get the hang of it. A good bottle for starters is a smooth, round, straight-sided wine, beer, or pop bottle. Make sure all the labels are removed (soak the bottle in water to remove the labels). Remove the cap if there is one.

The following steps describe the cutting procedure in detail:

### Step 1: Adjusting the Machine

(1) Adjust the cutting length:

Decide where you want to cut by loosening the **down screw** and moving the cutting system forward for a shorter cut and backwards for a longer cut.



(2) Adjust the cutter:

Loosen the **up screw** with your finger or a bottle on it. The pressure of the spring causes it to fly out.

## Step 2: Etching the Glass

Before breaking the glass bottle, a light etching is required.

(1) Use a round, smooth bottle with parallel sides and select the location for the desired cut. Then adjust the backstop to this length and place the bottle on the cutter as shown.



(2) Rotate the bottle toward one direction with two hands. Keep it firmly against the backstop and keep it moving while you're making the etching.

Tips: This will take practice if you've never used a cutter to etch the glass before.

## Step 3: Separating the Bottle

People often use one of these two methods to separate the bottle. You can choose one of them.

### Method A. The Flame Method

This method is most commonly used. A burning candle and an ice cube are required for this method.

(1) Light the candle and slowly rotate the bottle in one direction with the tip of the flame about an eighth of an inch directly under the score line (the etching). Usually about 3 or 4 revolutions are



sufficient.

(2) Rotate the bottle 2 or 3 times at a faster pace to give a final uniform temperature to the glass. The bottle should feel hot to touch, but not too hot to handle.



(3) Place the bottle in an upright position. Rub an ice cube around the etched line for one or more revolutions until the etching becomes a crack. The crack should continue completely around the bottle.

### **Method B. Use Hot and Cold Water**

Using this method, you will need to alternate between "almost boiling water" and "cold tap water."

(1) Soak the bottle with almost boiling water and rotate the bottle at a faster pace to give a uniform temperature to the glass. The bottle should feel hot to the touch, but not too hot to handle.



(2) Then put the bottle into cold tap water and rotate it. Repeat the above steps 2-3 times or more. When you repeat the steps, you may hear audible "clicks" indicating that the intact portions along the etching are now cracking. (Note: DO NOT use excessive force. Let the glass break itself.)

### **Tips:**

We suggest you start out with jars or bottles that you don't care too much about. Find the temperature of your cold tap water and add 110°F for the hot water temperature.

Remember that you aren't cutting with hot water or cold water – you are causing thermal stress by using both. Not enough thermal stress and no cut will

propagate along the score line. Too much thermal stress and the crack will ignore the score line and wander freely.

#### Step 4: Smooth the Edge

Chipping will easily cause injury. To prevent chipping, you should make the edges smooth.

(1) Rub the inside and outside edges lightly with a piece of coarse polishing paper.



(2) Sprinkle a small amount of the polishing powder on a flat hard surface. You can also use a glass or metal pie plate or a piece of window glass.

Note: DO NOT use any surface of value for polishing since the polishing powder will cause scratches.



(3) Dip the edge of the glass in water and then place it on the polishing surface. Start to grind in a circular motion. After a short time, the edge of the glass will become perfectly flat and have a dull, gray appearance.



(4) Again, smooth the inside and outside edges with the polishing paper. The finer polishing paper should be used to give a final smooth finish. Use water on the paper periodically while polishing.

If you're not successful with the first bottle, try another. Bottles are plentiful and easy to obtain! Relax! Remember, glass cutting is an art. Take your time and you will be rewarded by the excellence of the finished product.

## VI Suggested Items to Make From Glass Bottles

Now we are coming to the fun part! Let your imagination run free! If you have any ideas, just do it!

### 1. Before You Start

Before you begin your project, please read the following information in detail.

#### Hints and Cautions

- Always wear safety glasses when cutting or grinding glass.
- Wear a protective mask to guard against inhaling finely ground glass.
- When using a kiln, make sure you follow the manufacturer's instructions.
- When removing items from the kiln, wear heat-resistant gloves.
- Keep a fire extinguisher handy when using an open flame.

#### Basic Painting on Glass

- Clean the inside of the glass with dishwashing detergent and water. Wipe it with a lint-free cloth. Before painting, clean the outside of glass with rubbing alcohol.
- Choose a soft round watercolor brush to allow the paint to flow.
- A flat brush can be used to obtain a lighter coverage and to detail brushstrokes. Guide the paint into the corners using a toothpick. Gently rock it to distribute the paint evenly.
- If bubbles appear in the paint, use the point of a pin to disperse them.
- Dry on a level surface.



- Apply a second coat for deeper color.
- Practice using liners on waxed paper. Try not to drag the applicator through the line. Hold the nozzle slightly above the glass. Tidy the edges with a toothpick.
- Before baking, glass paint can be removed with alcohol.
- Outliners are easily removed with a craft knife.

## Basic Firing Schedule

Unless otherwise specified, projects use the following firing schedule:

- (1) Fire as fast as possible to 1500°F.
- (2) Hold for 10 minutes.
- (3) Cool in the kiln to 200°-300°F. Opening the kiln sooner may result in broken or cracked glass.

## 2. Things to Make – 15 Inspiring Ideas

The following suggestions have been made to give you a detailed description with pictures. You can try to make them yourself.

If you have any new items, take a picture and send it back to us. We welcome your input and would love to share your experience and feature them in future editions of our booklet.

### Suggestion 1. Drinking glasses, bowls, and ash trays

Certain bottles make good drinking glasses because of the designs molded into the glass. Large diameter bottles make useful bowls. You can also cut the bottles and turn them into fishbowls and terrariums.



### Suggestion 2. Flower vases

Long, tall bottles make very pretty vases. Also, you can



use the top part of the bottle to use as an inverted hanging vase with simple ropes.

### **Suggestion 3. Self-watering planter**

This idea works quite well for tall bottles with short necks. As shown, the bottle is cut at the point where the top of the inverted upper half is fairly close to the bottom of the lower half. You can determine this point by measuring the distance between the top of the bottle and the point at which the bottle starts to curve inward. Use this measurement as the distance to cut from the bottom of the bottle. Poke a few holes into a small piece of the neck before filling it with potting soil. Now put water into the bottom glass and you've got a self-watering planter that takes only the amount of water it needs.



### **Suggestion 4. Slumped Bottle Cheese Tray**

This is very practical to use in the kitchen. What you need is a clear wine bottle and copper wire.

Follow these steps: (1) Place the wine bottle on its side using shelf paper on the floor of the kiln. (2) Curl the wire for a hanger. Lay the wire in the mouth of the bottle. (3) Set the kiln to rise 500° each hour until the temperature reaches 1100°F. Hold this temperature for 10 minutes. Raise the temperature 250° per hour until it reaches 1300°F. Heat as fast as possible to 1500°F. (4) Mix epoxy according to the manufacturer's directions. (5) Allow it to cool to 200°- 300°F before removing it from the kiln.



### **Suggestion 5 Candle holders and goblets**

Goblets and candle holders are simply made with the bottle top turned upside down and stuck onto its own bottom. If a very short bottom is desired, follow these instructions: (1) Cut the bottle where it starts to curve inward. (2) Lightly rub the bottom portion with a grinding



cloth to smoothen any rough spots and place the edge against the guide on the bottle cutter. (3) Adjust the bottle so that the glass cutter wheel is close to the bottom. You will end up with three pieces: the short bottom, the middle cylinder, and the top portion. Use the bottom and top for the goblet or candle holder, and the middle cylinder can be saved for interesting future projects.

Also, a simple lamp shade can be made out of the bottle tops. You can just add a piece of wood to the bottom of the bottle and put the candle inside the bottle.

### **Suggestion 6.** Candlelight shade

Use the top part of the bottle and make it airtight with a wine stopper. Try to drill a little hole in the wine stopper. Pass the wire through the hole and put the electric light into the bottle. When the light is turned on, you will be amazed by the excellent effect.



### **Suggestion 7.** Wind chimes

Wind chimes can be made by simply stringing the top and adding glass rings. You can use a wine stopper to fix the chimes. It's better to get some bells and shells to make different sounds. If you don't have one, ropes are also OK.



### **Suggestion 8.** Salt and pepper shakers

Here is a real practical use for bottle tops of your choice. Epoxy a bottom onto the glass; this can be made of plastic or wood. For the top, purchase several plastic bottle top covers and poke a few holes into them with a hot nail.



### **Suggestion 9.** Christmas tree decorations

Some Christmas decorations and picture frames are quite easy to make. With a little practice you should be able to make successive ½-inch cuts on the bottle of your choice. To keep the displays inside of the ring intact, it's best to glue a thin plastic round cover onto each side of the ring.



### **Suggestion 10.** Egg holder

Use the bottom part of bottle with a deep concave and use it as an egg holder.



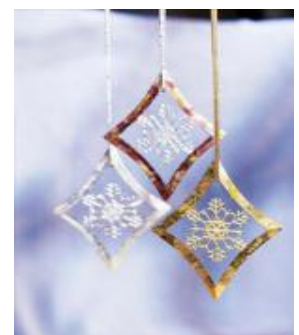
### **Suggestion 11.** Hour glass

A unique contemporary hour glass can be made by epoxying two top halves of identical bottles of your choice, mouth to mouth. One of the two halves can be placed on top of the other, as shown in the picture, with any material sandwiched in between to limit the flow of fine sand. The top and bottom platforms as well as the dowels can be made from your favorite hand polished wood.



### **Suggestion 12.** Star-shaped decoration

Star-shaped decorations are made by splitting the rings and then regluing them back to back. We like the sequence of the splitting rings. Re-adjust the cutting wheel on your cutting tool straight up. After scoring the line, just reach inside of the ring with the handle of a small screwdriver and tap lightly along the line until the sound changes, signifying the glass has cracked. Repeat the operation at the opposite side of the ring (180 degrees). When regluing the pieces, it's best to roughen up the joints with an emery cloth so that the epoxy will hold better.



### **Suggestion 13. Flash powder**

Flash powder can make the bottle more attractive and give you a visual effect of bling! 3M tape and white glue are good choices to stick with flash powder. Also, you can mix colors of different powders.



### **Suggestion 14. Rope**

Using ropes to decorate the bottles can be a good idea if you are an arts and crafts fan.



### **Suggestion 15. Airbrush**

If you want to add color to the bottles, you can use an airbrush to paint them. You could also draw pictures on the bottles.



## **VII Conclusion**

It may take you some time to get used to the bottle cutter, but once you get used to it you can cut wine bottles much faster and more easily. You are sure to have fun whilst doing it! What's more, you are doing something good for the environment by reusing your bottles.

The important thing is to enjoy DIY and appreciate your work. Please share your ideas or work with us! We will be happy to include pictures of your unique work in this booklet in the future.

# ENJOY YOUR ENVIRONMENTALLY FRIENDLY LIFE!



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