

# D and B Rockwerks

## Freeform Cabbing

I hope this tutorial will help you in your quest to learn how to do cabochons. I am pretty much self taught, so I won't be following a textbook, and I am not trying to say my way is the only way, far from it. All I am showing is the way I have come to do it. So, let's make a cab.

First, you have to start with good material, to get good cabs, you can't grind away fractures and pits in most cases, so start with good material, and it will save you frustration down the line.

Thickness of the slab will determine the height of the dome. In most cases, stones that are translucent, or in other words you can see light thru them, should have a higher dome. This allows more light into the Cabochon, highlighting the details. Opaque stones, for the most part, will look better with a shallower dome. There are always exceptions! So if you want to put a higher dome on a cab, start with a thicker slab, roughly 1/2" to 3/4". We will be doming both sides of the cab in this tutorial, so if you are just making a single sided dome, adjust slab thickness accordingly.

OK, we will be cabbing a slab of Rainbow Obsidian, from Glass Buttes, Oregon. I will make a diamond type pattern, domed on both sides. First I cut the rainbow at about 10° off of the flow lines, this will spread the rainbow across the slab.

Trim out a rough diamond shape on the trim saw, out of the rough slab. This is what I have so far. Notice the thickness, a bit thicker than show bought slabs.

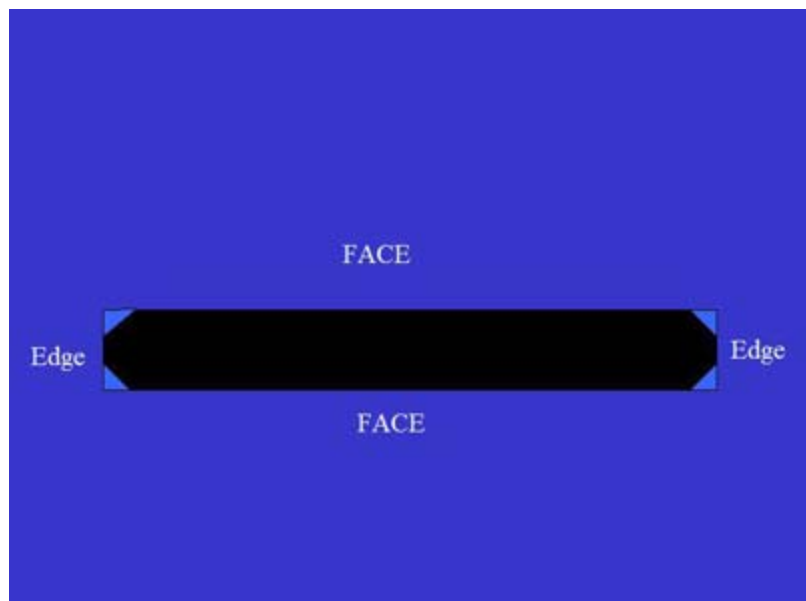
The next thing to do at this point is to even up all the edges, and grind down any low spots on either face of the cab. Do a good job of evening up things now, and you will save your self frustration down the road.

OK, now that things are nice and evened up, we are ready to start the doming process.

This is the part in the process that you should take a bit of extra time, so you are sure you get the dome

started right. Again it will save you hair pulling down the line. Now pick a face to start working on, and we will begin to take down the edges. We want a 45° bevel on all 4 edges of the diamond, on both sides, or

8 bevels. We want to make the bevel so that it is 1/3 the way down the thickness of the slab, the opposing bevel on the other side also goes down about a third of the thickness., this leaves you with, bevel, 1/3,



Straight, edge, and 1/3 bevel. Something like the diagram on previous page.

Now all you need to do is bevel the edges on both sides, or all 8 bevels. Make sure the bevels are equal depth all the way across the bevel, the bevels should be parallel to each other.

This helps keep your cab in equal proportions. OK, double check that all your bevels are even, parallel, and the correct depth.

Now pick a bevel, now start grinding on that bevel and bringing the ground part towards the center. Bring the edges evenly from the sides towards the

middle. Be sure to grind equal amounts of the bevel as you go.

Keep the symmetry of the bevel grinding as you go.

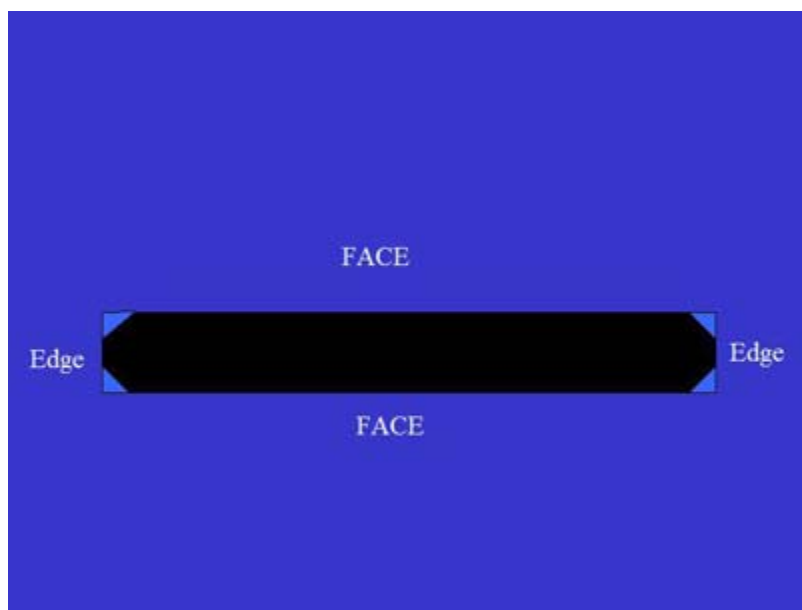
This is a

good time to mention an opal cutters rule. “Cut a little, Look a lot”, This is true when doing cabs, you can always grind more, but it is real hard to put it back. So grind a little, check your bevel carefully, then grind a little bit more. You will notice that you have a rough diamond shape that you have ground as you worked the bevels towards the center,



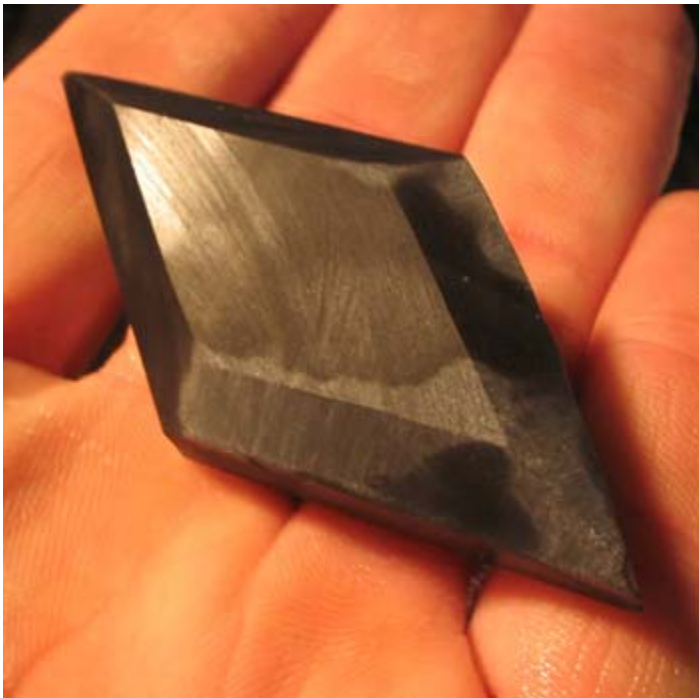
The more you practice, the faster you will get at it. Now, when you get your cab to look something like the diagram below, and the bevels are **all** even, we will round everything off and make a well rounded dome. We will start to make this diamond shape an oval, which is a smoother shape for making domes with.

In the roughest grits, you will have ridges where the grinding wheel has been, these will be removed as we work down in grits.



To work the rough diamond down to an oval, you will need to start at the grind line you left off at when grinding bevels down. Hold the cab so that the face is facing the grinding wheel. Touch the grind edge you left off at, and

work that ridge lightly, while moving the cab in a slow circle, while keeping the face pointed towards the grinding wheel.



As you get to the points in the diamond, round them off, keep going in a circle, slowly and carefully bringing the grind line towards the center. After a few passes the diamond shape, should be roughly an oval shape. Now just follow the oval shape with the grinding wheel, still slowly moving towards the center, the unground part, should be

getting smaller, and smaller as you go. You should have a cab domed on one side. Keep doing this, until you reach the middle,



check your profile view of the cab often, so you can keep the correctly proportioned dome as you work

towards center. When you reach the middle, your dome is done. You will now need to round off the bevels that are closest to the edges, just keep the cab moving as you move the cab from face to face, staying even along the cab

Edge as you go, keep rounding until you get a nice smooth edge. Do this on all of the sides. When it is rounded like you want it, time to get to sanding.

Grinding = Shaping

Sanding = Smoothing, no shaping.

Recheck the dome slope and cab proportions, and correct as needed.

Note about grits. This is what I use, you will have to adjust the tutorial to fit your grits.

80 Grit Diamond Wheel (Grinding)

100 Grit Turbo Diamond Wheel (Grinding)

230 Grit Flex-Wheel, (Sanding)

600 Grit Flex Wheel (Fine Sand)

1,800 Grit Flex Wheel (Prepolish)

50,000 Grit Flex Wheel (Polish)

Polish Wheel, (Buff and Polish)

As I said, yours may be different, just adjust accordingly.

This is a picture of half of the cab rough ground with 80 grit wheel, and the other is done with 220 grit wheel.



This is how you can tell when you are ready to move to the next grit. Dry the cab off, and the whole cab surface should look like the grit you are on, any rough spots, keep going on that grit until the **WHOLE** cab looks even.



This is a shot of half of the cab ground on 220 Grit Wheel, and the other half on the 600 Grit Wheel. Continue working thru all the grits, checking by drying the cab, and looking that the whole cab is done to that grit before moving to the next grit. It is so much easier in the long run to have the whole cab done at each grit, than trying to correct a rough spot 2 grits later. When you are done with all the grits, it is time to polish.

Note about polishes. There are as many polish formulas as there are Lapidary's, so I am just stating what I use, I am sure people get fantastic results with other formulas, but this is mine.

Most of the time, I will use;

75% Cerium Oxide,

15% Tin Oxide

10% either Linde A, or Raybrite,

If polishing Obsidian, after using the above, I will add a bit of red rouge for a final polish.

Now the best polishing action is achieved when the polish is getting warm, but not yet dry. There is a fine line between too wet, and too dry. Put wet polish on the stone, and begin polishing, watch for the polish to start to dry out, right before it is dry, that is what you want, I use a spray bottle, and hit it every minute or so, with a spritz of water. Keep checking your stone to see how the polishing is developing. Now when you are sure you are done, go three times longer than you just went. This brings out that extra little glass like shine.

Note about Obsidian. It is a softer stone than agate, but it takes at least 3 times longer to get a good polish. So, you have to keep working Obsidian longer than you may have thought. Do not let Obsidian get hot when polishing, you will get little chips in the stone if you let it get too hot. As I said it is a fine line between the correct polish temperature and too hot, or wet.

When you get done polishing way longer than you think you should, all that is left is to wash the stone, and enjoy the work you did.



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Good Job! I hope this tutorial has been of use to someone, there are so many ways to cab a rock, but the end product is what counts, so if you develop your own style, that's great. Let me know what your style is. I am pretty much self taught, so I am sure the school taught people have different and maybe even better ways. So this tutorial is only to show how I do it. Thanks for reading.

Fell free to contact me with any comments, suggestions, etc.  
info@dbrockwerks.com

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Dan Kelly