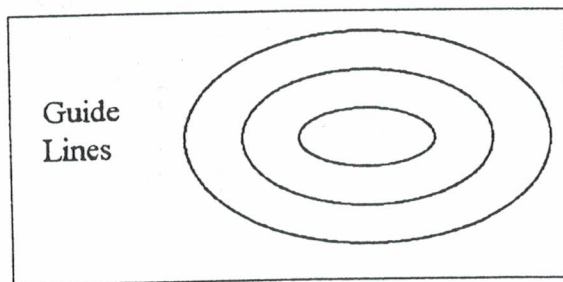
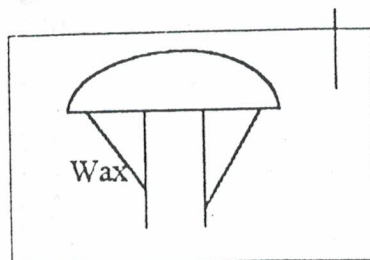


## STANDARD CABOCHONS

1. CHECK YOUR ROUGH CAREFULLY FOR CRACKS, PITS, SOFT SPOTS ETC, USING A TEN TIMES GLASS. This is one of the MOST important steps you will take when cutting a good cab.
2. When you have found a section of rough that looks problem free, using the template establish the best orientation for the stone. Markings that are diagonally placed look better than those that are straight up and down or across, and placing a feature mark, such as an eye in a piece of agate, off centre works well. When you are happy with your choice scribe around the stone with an aluminium pencil, getting as close to the edge as possible.
3. Using the trim saw, trim the excess material away, leaving at least 2m.m. around the edge.
4. Turn the stone over and remark the cabochon. REMEMBER THAT THE MARKED SIDE IS THE BACK. Turn your stone to the front and rub off your first mark.
5. Using the coarse grinder, grind your stone down to the mark, keeping your edges straight. IF YOU ARE CUTTING A SPECIFIC SIZE, E.G. 30 X 40 MAKE SURE YOUR STONE IS A M.M. OR TWO OVER THE REQUESTED SIZE, OR IT WILL BE TOO SMALL WHEN IT IS FINISHED. Usually it is necessary to stay a m.m. or two outside the marked line, as the scribe does not get right into the side of the template.
6. Grind a small bevel (1m.m.) around the back of the stone.
7. Mark a girdle line about 2m.m. wide around the side of the stone, and mark two guide lines on the top, one making a small oval on the top of the stone, and one about half way between this mark and the edge of the stone.



8. Using plenty of water at all times - stone dust may be dangerous if inhaled, grind a FLAT surface all round the stone from the first line inside the edge to the girdle line.
9. Grind a similar flat around the stone, from the inside line to about half way down the previous flat.
10. Now dop your stone. The stone and the dop must both be at the same temperature to allow the wax to stick. The dop should be centred and straight, and there should only be a thin film of wax between the dop and the stone. Push the dop on to the stone as hard as possible, and then, dipping your fingers in water, mould the wax around the stick, forming a cone. Do not take the wax to within 2m.m. of the edge of the stone as you will end up sanding wax and not your stone. If a lot of wax is between the stone and the dop, when the stone is in cold water the wax will contract causing the stone to come off the dop.



10. Allow the stone to cool before continuing, and then, using the 220 grit, using a rocking motion, round the stone until a pleasing dome is formed. Make sure that there is no flat spot on the top.

11. Commence sanding, working through the various grits. Check the stone with a ten times glass before going to a finer grit, making sure the stone has no flat spots or scratches. **MAKE SURE YOU WORK YOUR STONE ALL THE WAY TO THE BOTTOM EDGE - A STONE SHOULD HAVE A GIRDLE LINE, NOT AN EDGE THAT IS mums WIDE.**

12. When you think your stone is ready to go to the next size grit, give it another five minutes on the grit you are on! The best polish comes from sanding, sanding and more sanding. You can polish all night but if the sanding is inadequate you will not achieve a good finish.

13. Polish your stone. Most materials polish well on oxide, but if you have an unusual stone that is not polishing well, see your instructor, or look for help in your club's library.

14. Take it off the dop, and admire your finished effort. But wait a minute - is it really finished if you haven't done the back?

#### THE CORRECT USE OF WHEELS.

Never try to shape a stone on a fine grit wheel. All shaping must be done on the 80 or 100 grit wheels, and no attempt should be made to move on to the 220 wheel until the shaping of the stone, except for the girdle line, is finished. The 220 wheel is used to take out any lumps and bumps and deep scratches caused by the coarse wheels. The stone is ready to move on to the 280 when it is evenly matt all over with no high or low points. **CHECK WITH THE 10X GLASS.**

The 280 wheel, which is the first of the fine sanding wheels, is then used to produce a fine finish, without any flat spots or scratches, right down to the girdle line.

**REMEMBER - MORE POINTS ARE LOST FOR THE EDGE OF THE STONE WHEN STONES ARE BEING JUDGED THAN ANYWHERE ELSE. IF YOU TAKE CARE OF THE EDGE THE MIDDLE WILL LOOK AFTER ITSELF.**

Check the stone all over with the 10x and when the finish is even all over give it another five minutes and then move on to the 600 wheel.

The 600 wheel is the finest sanding wheel, and time spent on this wheel will give a fine polish. Sand until you can detect, with the 10x, no further improvement happening. Give it another five minutes then move to the 1200.

The 1200 wheel is the first of the pre-polishing wheels, and on most materials you will achieve a degree of polish. Once again, polish until you feel no further progress is being made, then give it a couple of minutes more, checking with the ten x and repeat the process with the 14,000 wheel.

**YOU CANNOT REMOVE A FLAT SPOT OR SCRATCH WITH EITHER OF THE POLISHING WHEELS.** If you are unlucky enough to find one of these go back to the 600 wheel and work it out. On some materials it may be necessary to go back to the 280, but if you check your stone carefully with the 10 x this should never happen. Using a fine wheel before you are ready results in two things - one is that you will take far longer than you need to achieve a good stone, and the second is that you cause unnecessary wear and tear and even damage to the wheels.

## POLISHING THE BACK OF A STONE.

The best way is to use a sheet of glass and 260, 400 and 600 grits. While stones can be done on the flat lap great care must be taken to avoid chipping the stone. Dip your stone on the top - you will not harm the polish.

Scribe across the back of the stone using an aluminium rod, making sure all of the stone is marked. Using 260 grit, rub on the glass sheet using a figure eight motion. Add more water and grit as necessary. After ten minutes examine the stone with a glass. If any marks or shiny spots remain the stone is not yet flat and needs more time.

Scribe like this -



When you are happy that the stone is flat with a nice even roughness, wash the stone, the glass and your hands thoroughly. Any coarse grit transferred to the next stage will cause scratches. A word of warning - if doing stones at home do not wash the grit down the sink. Repeated often enough, it will cause a blockage.

Using 400 grit, proceed as before, omitting scribing the stone, for fifteen to twenty minutes. Wash and do the same with the six hundred grit. Examine the stone with the glass to check for scratches. Wash your hands and the stone very thoroughly and go to the 1200 diamond wheel. Work the stone all over for a minute or two. Be very careful not to make a hollow in the centre of the stone. Do the same on the 14,000 wheel.

Go back to the 600 wheel and very carefully cut the back bevel. This must be between 35 and 55 degrees to the horizontal and must be no more than 20% of the stone in height. The minimum size is what can be judged by a ten times glass. Generally speaking 2 - 3mm is plenty. The bevel should be an even width all the way round and not have any chips. When you are satisfied with the bevel and have checked it with the glass, work round it six or seven times on the 1200 and then the 14,000 wheels.

Now polish the back, not forgetting the bevel, and check the stone. If you have achieved a nice deep polish without any scratches, congratulations! Sit back and admire your stone. If you find the stone is not polishing well or has scratches or dull spots give it a little longer on both the 1200 and 14,000 wheels and repolish. Try working across the edge of the polishing wheel. If all else fails it is back to the 600 grit for an extra ten minutes or so, and then complete as before. Be sure to check your back bevel - you may have ground it away!

Time spent in the early stages of doing the back is well spent. If you try to cut the time down you usually end up having to rework the stone. The back is as important as the front for competition stones, and points lost for a poorly done back have cost many a competitor a place in a competition. As our aim is always to produce the best stone possible it makes sense to put in the little bit of time and effort to produce the very best stone of which we can proudly say "It's all my own work."