

KEEPING SKILLS ALIVE

How to make a Claw Setting

Gemstone setting is a skill that every jewellery student wants to learn, and quite often they want to get straight into grain or pave setting before they have even made a setting.

I always advise students to learn to make the settings first and then start the setting course at the beginning: Claw Setting. Walk before you run!

Claw setting contains the foundation skills for all other stone setting techniques. In this course you will be shown how to set a 6mm CZ into a SB1 setting blank supplied by Jewellery Training Solutions. The specially made blanks are perfect for students to practice without pressure. The more time invested into practice will pay off in the long run.



1 The supplied blanks and stones are prepared and calibrated correctly but for commission setting jobs you should always begin with a thorough examination of the stone and setting.

Check the profile of the stone, stone proportions, potential weak or flawed areas. Consider where the claws should contact the stone for maximum appeal.

Whether the setting is handmade or cast, a check must be made to determine if the claws are level and in the correct NSEW position. Ensure that the stone sits onto the setting covering approximately half of the claw thickness. Adjust the claws if necessary and ensure that the setting is cleaned up and ready for a final polish once the stone is set.



2 No matter what kind of stone setting you are performing, the objective is to create a seat for the stone to sit into and position metal onto the crown of the stone to secure it. No glue!

The seating (also called a bearing) must match the stone profile perfectly to avoid any gaps or movement. It must also be cut into the claws at an equal distance from the top of the claw. So, a rule of thumb to ensure the seating is at the correct depth, is to set your precision dividers to the stones girdle to table measurement and mark from the top of the claw to the inside of the claw. This will ensure that you have ample room for shaping the claw tips and trimming down later. Use dividers to mark each claw individually.



3 Marking the correct depth this way can be difficult, especially for small stones, but with practice and experience you will instinctively know the correct setting, and you can bypass the marking stage.

You can now cut into the markings with a 4/0 saw blade, if there is room for the blade between the claws (the four claw setting is ideal for working on with a piecing saw). Cut an equal depth into each claw, not more than 1/3 of the claws thickness.

The seating cut can be done with a setting bur, but I find that this bur removes too much metal from the claw tips, reducing the tip shaping options. A hart bur is more versatile and can be used for any type of setting.



4 The ideal bur size for your first setting job is one that cannot pass between two claws. For beginners, using larger burs reduces the risk of bur rip or ring bark. This is where the bur picks up traction from the inside claw edge and rips around the claw causing damage. You will experience that when you start, so practice on setting blanks before commission work. With experience you will gain better control of the bur, so the size will not be as crucial.

Keep the bur square to the setting as you begin to cut the inside of the claws and cut no more than half way into the claw thickness. Ensure that the bur is running before you make contact.



5 Tilt the axis of the bur inward and work on the pavilion cut. This will adjust the undercut angle to match the profile of the stone and allow the stone pavilion to rest into the setting properly.

Hold your work firmly into your bench peg. Try to perform as much of the cut work by holding the setting in your fingers rather than a ring clamp. You will get a better feel for your work as your hands work in unison.



6 Check to see if the cut matches the profile of the stone. Examine the girdle of the stone you are setting. If it is thick then you will need to adjust the seating cut with a fine tapered bur to match the girdle thickness.

Once you have finished the seating preparation remove any swarf/flashing (small pieces of metal dragged up from burring). This is easier to do before the stone is placed. You can use a graver or a scalpel for this.



7 If you are working on a project or a commission, ensure the setting is prepared for a final polish before the stone is placed.

Bend two side-by-side claw tips back slightly with a pair of chain nose pliers with the tips ground down slightly. Try not to bend the whole claw out.

Test fit the stone. Pushing the stone with a metal tool could damage it, so use a piece of wooden dowel or your finger nail. Open the claws or perform further cut work until the stone rests neatly into the setting.



8 You can use a pushing tool to move the claw tips onto the crown facets. Each claw should be pushed a little at a time on opposite sides, this technique will keep the stone level.

Do not use too much force as you will bend the whole setting off its centre line. For larger settings and thicker claws, such as the SB1 setting blanks, chain nose pliers or setting pliers can be used for squeezing the claws into position.

The passive/resting jaw of the pliers keeps the opposite claw steady as you lever the claw down onto the stone crown facets.



9 Constantly check the level of the stone and the positioning of the claws.

Before the stone is tightened, turn the stone so that the claws will rest onto the crown break facets. This will ensure that the stone is in symmetry and the main crown facets are fully displayed.

Now tilt the pliers to apply a little downward pressure until the stone is fully secured. A well-prepared seating will barely show any gaps once the stone is set. This will take some practice.



10 The claw tips can now be trimmed down and shaped with a needle file. Ensure the file has a safety edge to limit stone damage.

For your first practice setting leave the claw tips square in shape. For commission work, discuss the shape options with your client.

There is usually a slight gap between the forward edge of the claws and the crown of the stone. If this is not addressed, the claws will scratch and catch on clothing.



11 Jewellers generally need to make specialised tools for certain tasks. For the final forming of the claw tips, use a steel pusher with a 'V' shape cut into the end. This can be used to push and burnish the open edge of the tip until it closes fully onto the stone. It also hardens the tip for longevity.

Prepare the setting for a final polish but be careful when using buff sticks or abrasives disks, as this could damage the stone if it is contacted.



12 Check the quality of your work. Assess your work as if you are a customer. Keep practicing until you can tick off the following check list:

The claws are a proportionate size for the stone, shaped and spaced correctly, and symmetrical.

The height of the claw tip ranges between 70% and 90% of the distance between the girdle and table.

The seating is cut correctly and evenly from claw to claw with no visible gaps.

No more than 50% of the claws overall thickness was removed when the seating was cut.

The gemstone is level and not too high or low in the setting.



Peter Keep is a master jeweller and lecturer at WA TAFE and runs an online jewellery school for students worldwide wanting to up-skill or work in the trade.

Jewellery Training Solutions offers a comprehensive online training service including the very popular Ten Stage Stone Setting Course and the complete Stone Setting Student Packs. Check out the courses and options.



www.jewellerytrainingsolutions.com.au