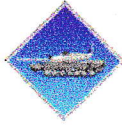




My Saw Doesn't Cut!

by Bill Ritter



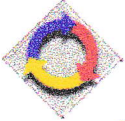
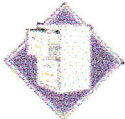
-



-



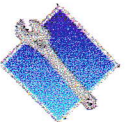
-



-



-



My saw doesn't cut! My blade looks like it has diamond on it, but it doesn't cut! My saw only cuts one or two inches into the material and stops cutting! My blade cuts very slow and I have to really push it! Sound familiar? I hear these complaints every few days. It took me awhile, but now my first question is, "What are you cutting?" and my second question is, "What is the cutting fluid?" Ninety-nine percent of the time, I have saved the person the cost of a new blade and made their saw work. What I have sold them is a one or five gallon pail of the proper cutting fluid, and maybe a sharpening stick if they don't have an old silicon carbide 100 grit wheel laying around.

Nobody likes the smell of diesel or kerosene (which many old-timers use, and we stress **DO NOT USE!**) and the trouble of clean up and disposal of the sludge. But for cutting hard stones like quartz-based stones (agate, jasper, petrified wood, etc.), oil is the only cutting fluid.

We or our friends have tried about all the water-based coolants available and we have not found one that does not "glaze over" the saw blade. Basically what happens is that the water does not really lubricate, and at the point of contact between the blade and the material, it gets so hot that there is a micro flow of the metal bonding material over the diamond. Once this happens, the metal starts to ride on the material and the diamonds are no longer exposed. Then the blade stops cutting. It's that simple.

To bring the blade back to life, you need to

clean the metal away and expose new diamonds. This is done by running several cuts into the old silicon carbide 100 grit wheel or use a sharpening stick which is about the same thing. Then run your fingernail over the edge of the blade to see if it catches on the newly exposed diamonds. Then use a loupe and look at the edge of the blade to see if there are 2-4 diamonds in each notch (like on a standard lapidary blade); they will be little black dots. If a blade is badly glazed, it may take several cuts on the stone to expose the diamonds.

Now that you have refurbished your blade, change your cutting fluid to the proper oil. We define the proper oil as one that has a high flash point (remember that diesel and kerosene are FUELS!) has no carcinogens, has a very low viscosity (almost like water or a 3-in-1 oil), and has a low odor. Contempo Lapidary has an oil which fits this description, called "Finecut." To conserve your oil, strain the old oil and sludge through two paper bags. It will come out almost as clear as new oil. Dispose of the sludge properly.

For soft stones like marble, travertine, turquoise, or even granite, you can use the water soluble coolants, as these stones are abrasive, clean the blade and do not produce as much heat when cutting as the quartz type stones. Also, you will not impregnate the porous stones with oil. But remember, when you use water, even though it has a rust inhibitor in it, you should drain the saw every night and wipe it down and spray something like WD-40 on it to prevent rust.

I hope I have helped you in some way with

this explanation about the proper coolant to use in your saw. There are many variables with special blades for different materials, but we will continue with that subject in the next installment.

copyright 1997 by Bill Ritter

Bill Ritter and his partner, Ernie Wilson, purchased three of the oldest lapidary companies (Highland Park, Beacon Star and Frantom) 11 years ago, and blended them to form Contempo Lapidary. Since then, they have designed and introduced one new piece of equipment almost every year. Contempo is the leader in equipment for the small manufacturer and serious artisan. Bill specializes in assisting customers looking for equipment solutions to their production problems. You can find Bill at burntrubber@greenheart.com and <http://www.paleoart.com/contempo.htm>

eclectic@geckoplex.com
