

# How to save lathe chisels from the trash can!

Have you ever turned your chisel tip **blue** from grinding too aggressively so it wouldn't hold a sharp edge any more?

Here is how to save it by restoring the temper. I learned this method while getting a Blacksmithing Merit Badge in Boy Scouts. My father and his father were blacksmiths.

I had to make a cold chisel using my grandfather's forge. I still have and use the chisel after 56 years.

I learned what happens inside the steel when taking a metallurgy class in college.

This method will work for high carbon tool steel. I doubt it will work for the newer "cryo" steel tools.

It is a simple three step procedure.

Items needed:

1. A heat source. A Propane torch will work, however I use Map gas. It burns hotter.
2. A container of soft sand.
3. A container of clean water, I use distilled water.
4. Sand paper. I use about 400 grit.
5. Safety glasses.

Procedure:

1. **Anneal** the cutting edge by heating the end of the chisel (1-1 1/2") of tip end to a cherry red color (about 1450 degrees F) then immerse it into the sand to slowly cool it.  
The tool will now be soft enough so it can be easily filed or ground to the desired shape. If it doesn't file easily it is not soft enough. Try to anneal it again.
2. **Harden** the chisel end by again heating it to a cherry red. This time quickly immerse it into the water and swish it around to quickly cool it. It now should be too hard to file. If you can file it, it's still too soft and needs to be hardened again. The tool will be too brittle at this stage and may fragment when hitting hard spots in wood.
3. **Temper** the tool tip by first cleaning the tip with sandpaper, then heating the tip slowly being careful not to blacken it. Hold the torch so it doesn't directly touch the end and blacken it. When the tip is a straw color quickly immerse it into the water to cool.

This process may take a time or two to get the it right. It took me a few times to see the straw color and to dip it into the water quickly enough.

Don't get discouraged. You can do it!