

## ALAN LACER

### RESOURCES FOR MAKING A BASIC HOOK TOOL:

Drill rod of "O 1" tool steel, 3/8" diameter, 9" length

Pint of olive oil

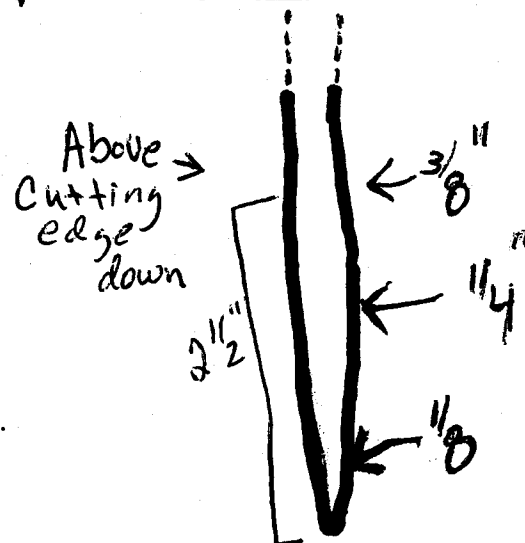
Heat source: forge, MAPP Gas, acetylene, propane with oxygen, etc.

Tempelstik (optional) in 1450 and 500 degrees

Mill file

Needlenose pliers

Grinder, slipstone



### KEY TERMS

**Annealed:** in a softened state

**Hardened:** Steel that has been heated to its critical temperature to bring to a very hard and brittle state

**Tempering:** the process of bringing hardened steel to a softer, working hardness for a particular use.

**Oxidation color spectrum:** the color spectrum that results from the oxidation of cold steel as it gradually gets hot. The polished metal sheen shows the colors as clearly as the color spectrum in rainbows.

### PROCESS:

1. Grind steel to profile in diagrams above (don't get the edge sharp at this time).
2. Heat last 1" or so to bright red and bend with needle nose pliers to create the hook-- bending to left as viewed from above (cutting edge down). A "flute" that is about 1/4" across is about right--just be sure you can get inside the flute to hone.
3. Reheat hook area to bright cherry red and quench in oil. Take your time and get a very even bright red consistently through the hook area.
4. Test for hardness by trying to file top of hook--should skate off
5. Clean the hook and rest of rod back about 3 inches--goal is to get as clean and polished as possible (use soap and water, wet/dry paper, polishing wheel)
6. Temper: heat about 3" behind hook very gradually--avoid bringing to any red--and let the oxidation colors develop. When the hook looks to be a dark bronze color, quickly quench in water.
7. Sharpen the outside bevel to achieve a cutting edge--cool in water regularly to avoid bluing the edge. Hone the freshly ground edge with a slip stone, followed by honing the inside flute of the hook.