

GSS 98.09 COLOR CASE HARDENING

During this one week seminar, we plan to cover the fundamentals of the charcoal method of Color Case Hardening. The most dangerous aspect of this method is that you can easily get burned during the process, so safety is a primary concern during the class. Therefore, long sleeve shirts, long pants, and shoes or boots (no sandals), and safety glasses are required. Some form of head cover (hat) should be worn.

Due to the time involved in the process; waiting for furnaces to heat up and cool down, size of crucibles, etc., We would recommend that you bring one action ready to be colored (320 finish) and something else to work on while waiting (perhaps a 2nd action or a group of parts). After every student has colored one action/set of parts, then, and only then, will we begin doing the 2nd or more actions/parts. Please do not be offended if you not are able to do multiples, our goal is to make everyone successful in coloring while they are here. As time and equipment permits, we will keep running all week.

Provided:

- Furnace
- Charcoal & parts packing container (crucible)
- Tongs

MATERIALS AND EQUIPMENT:

- White Cotton Gloves
- 1 can acetone
- 5 pair latex gloves
- 150, 220, 320, 400, 600 grain sand paper. (5 sheets each)
- 1/4 “, 3/8”, 1/2” wood dowel polishing mandrels
- 1ea. hard sanding block
- 1 roll 1” masking tape
- 1 notebook and writing instrument
- 1 polished firearm (to begin on Monday) – student’s responsibility
- 1 or more other firearms, or other projects to work on.
- safety glasses (AZSI Z87)
- face shield (recommended but not mandatory)
- welding gauntlet gloves
- welding or ball cap

This process is time consuming; ovens take time to heat up. You can color case as many items as you would like, provided we have enough time. We will not color case oil hardening steel, so leave your Winchester Model’s 94,95, Marlin 336, Rossi and rifle barrels at home.

NOTE-Any metal preparation you can do before coming will save time during class. A 320 finish will be more than adequate but by no means necessary.

As instructors learn as much as students do for every class, we, as time permits, will experiment with the variables of color case hardening. I hope to try different quench times and temps, and possibly using minerals in the quench tanks, to enhance or emphasize certain colors.