



Herman Silver Restoration & Conservation  
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## Studio Logic Workshop

Visit the shop of a professional silversmith and experience decades of what I've learned, along with "tricks of the trade." Bring your camera and pieces you would like to discuss or work on. Hands-on participation is encouraged.

Workshop runs approximately three hours.  
Additional time may be scheduled for extensive demonstrations on any subject.

What will be discussed and/or demonstrated...

1. **Safety FIRST**
2. **Lung Protection** for *particulate*: 3M 7502 half-face respirator with 3M 2097 filters, *vapors*: 3M 7502 half-face respirator with 3M multi gas 60926 filters.
3. **Eye Protection** using safety glasses, face shields, and oxy-acetylene goggles.
4. **Hearing Protection** using ear buds and earmuffs
5. **Mechanized Scratch Brushing** used for burnishing, cleaning, texturing, and finishing metal
6. **First Aid Supplies** include Hydrogen peroxide, antibiotic ointment, eye wash, 3M Nexcare™ bandages, Burn Free™ gel ([burnfree.com/burnfree/burn-first-aid-gel.html](http://burnfree.com/burnfree/burn-first-aid-gel.html)).
7. **Degreasing** with diluted plant-based Better Life Dish Soap™ ([cleanhappens.com/products/dish-it-out](http://cleanhappens.com/products/dish-it-out)) used hot in a crock pot with brushes containing natural bristles (horsehair, natural white boar, and Tampico – a natural plant fiber). When wet they won't scratch. NEVER use nylon brushes on polished precious metal!
8. **Hand Polishing Supplies** including various polishes (see what's recommended at [hermansilver.com/silver-polish-abrasion-ratings.htm](http://hermansilver.com/silver-polish-abrasion-ratings.htm)), cellulose sponges, cotton balls, cotton makeup pads, toothpicks, natural brushes (horsehair, natural white boar, and Tampico – a natural plant fiber). When wet they won't scratch.
9. **Feng Shui** and creating a beautiful, functional workshop environment.
10. **Shop Cleanliness** and the importance of maintaining a your work areas with a HEPA vacuum electrostatic brush and vacuum containing a HEPA bag and HEPA filter.
11. **Air Compressor**: Powers torches and pneumatic tools such as an angle grinder, blows out moisture from objects.
12. **Lighting**: Use adjustable lamps and LED swing-arm for close-up work.
13. **Strap-on Pill Bottles & Jars** used on extension arm lamps and posts throughout the shop, filling them with pens, pencils, rulers, Q-tips, etc.
14. **Pulse Arc Welder** for filling in porosity, tacking for soldering, invisible repairs, etc. (see review and blog at [silversmithing.com/puk.htm](http://silversmithing.com/puk.htm))

15. **Metal Coffee Filters** placed in a dust collector inlet to trap grindings for recycling and mixing for inlays, repairs, etc.
16. **Surface Plate and Gauges** for leveling and straightening objects.
17. **Hand File Storage** to prevent wear on each other. Use without handles for more control.
18. **Adjustable Bench Pin** to suit any job.
19. **Bench Shear** adjustments and maintenance.
20. **Spring Hammer** used for flattening trays and thinning metal.
21. **Tool Organization:** Keeping like-tools together, limit long reach for heavy tools.
22. **Railroad Spikes** make beautiful spoon stakes and other forming tools.
23. **Drawplate Hole Spotter** using a rare earth magnet epoxied to a pushpin.
24. **Rust Removal and Protection** use Evaporust™ (evapo-rust.com) to remove rust, removing moisture, then sealing with a carnauba-based wax.
25. **Plastic, Wood, Rubber, Rawhide, and Steel Hammers** and how to choose the right one for every job.
26. **Using Hard and Softwoods as Tools** when metal may cause unnecessary damage the piece you're working on. The world's hardest wood – Lignum Vitae – soft pine, and others.
27. **Torches:** Natural gas (carlisle-machine.com/industrial/handtorch.php, Miniflam (safe for any setting – see my review at silversmithing.com/miniflam-product-review.htm), and acetylene. Checking for leaks.
28. **Fume Ventilation** for removing toxic vapors and particulate AWAY from you, not going up past your nose.
29. **Soldering Area Accessories:** Adjustable elbows, stainless lazy Susan, firebrick, soft and hard soldering pads, flame bouncing, drawer for solder sorting, heat-resistant gloves, Burn Free™ gel.
30. **Flux Airbrush** for applying liquid flux with a Badger™ air-brush (I prefer Dr. Frank's Fabulous Flux™ from Gesswein).
31. **Distilled Water** to replenish paste flux.
32. **Hard Soldering Paste Flux:** Superior #6 – less toxic.
33. **Liquid Soft-Soldering Liquid Flux:** Superior #30 – less toxic.
34. **Pickle:** Citric acid – less toxic.
35. **Drill Press** safety and maintenance.
36. **Machine Lathe** safety and maintenance.
37. **Band Saw** safety and maintenance.
38. **Belt Sander** safety and maintenance. From sanding to polishing including 3M Trizact™ belts and felt.
39. **Disk Sander** safety and maintenance.
40. **Bench Grinder** safety and maintenance.
41. **Drawbench** demonstration with modified pliers.
42. **Polishing Area** where you'll learn proper polishing techniques and safety.
43. **Flat Lap** usage for polishing flat surfaces.
44. **Dust Collection and Cleanliness** at ALL stations where particulate is generated. Subjects include duct design, HEPA vacuums, and electrostatic cleaning around the shop.
45. **Rolling Mill** roller reconditioning and corrosion protection.
46. **Maintaining Good Posture** while sitting, hammering, and polishing.