

Beginning Silversmithing week 1

Instructor: Blair Anderson

Skills we will discover in this session:

- *forging & shaping*
- *sawing, drilling & cutting & filing*
- *surface texturing: hammering & Rolling Mill texture*
- *polishing*

cold forging



other info, tips, and terms at: www.silverworksglenechopark.com

project 1: Wire Earrings using wire!

learning objectives:

- the feeling of bending and shaping wire to create a mirror image.
- applying a hammered texture
- dapping
- polishing on the wheel
- understanding the concept of "Work-Hardened"

tools for this project:

round nose pliers
shears
chasing hammer
dapping block & punch

materials for this project:

6" 18 gauge round Sterling wire
pair of earwire

project 2: Pendant or Earrings using sheet!

learning objectives:

- applying a texture using the rolling mill or hammering
- using negative space to create a design element by drilling and sawing

tools for this project:

rolling mill
round nose pliers
shears
chasing hammer
saw
file
flexible shaft

materials for this project:

26 gauge Sterling sheet
pair of earwire (if earrings)
bail wire (if pendant)

project 3: The Little Wire Ring

using fire!

learning objectives:

- learning how to anneal
- learning how to solder

Soldering Steps:

1. Piece must be clean without surface oils (by annealing or filing)
2. Pieces must fit together well (think puzzle piece). No daylight.
3. Layout project on solder block
4. With tweezers, place snippits of solder on solder block. Place seam on top of solder.
5. Brush seam to be joined with flux (the green stuff)
6. Dry flux (Turn on torch and brush flame over joint. Flux may foam a little.)
7. Heat entire piece evenly. Pieces being joined need to heat to the same temperature
8. Watch solder flow, let cool to black, then quench in pickle.
9. Rinse in water, dry.
10. Check your joint.



Beginning Silversmithing

Using the Rolling Mill to apply texture

www.silverworksglenechopark.com

The Rolling Mill is...

Two steel rollers gauged to compress metal to the size needed. Also great for applying texture to metal.



Textures can be:

The Focal Point

Creating a texture that becomes the focus of a design is like adding a gemstone without the effort.



An Accent

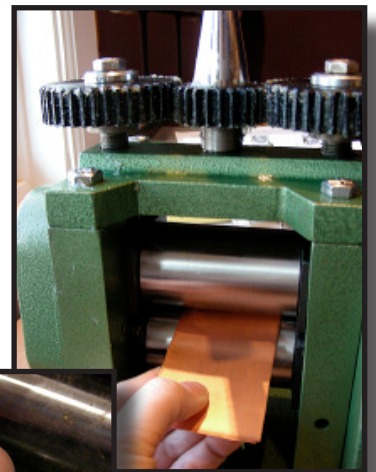
A repeated pattern makes a great accent to a design with multiple components



A Signature

A stamp can be a signature of style or even message.

Put your texture in between two pieces of metal.



Using a Rolling Mill:

1. Choose a texture to use as your "print"
2. Anneal sheet if thicker than 26 gauge.
3. Make sure metal is completely DRY. Steel and water DON'T mix!
3. Check thickness by beginning to feed sandwich into rollers.
4. Tighten or loosen rollers by turning handle at the top (counter clockwise to tighten).
5. Thread sandwich in by turning the hand crank.

There should be some resistance but not so much that it won't go.

6. Crank all the way through.



Tip!

If your "sandwich" just won't go through, the rollers are too close together. Loosen and try again.

Beginning Silversmithing week 2

Skills we will discover in this session:

- annealing metal
- connecting with solder
- measuring for ring size
- setting a cabochon stone

making connections



Project:

Band Ring w/gemstone

1. Measure your band material
2. Anneal your band material.

Annealing steps:

- a. heat piece to "cherry red"
- b. let piece cool to black
- c. quench in "pickle"
- d. retrieve **with copper tongs**
- e. rinse in water. Dry, dry dry.

3. File ends
4. Bring ends together in a tight fit
5. Solder joint
6. Shape/texture
7. Solder on Bezel cup
8. Polish
9. Set stone using bezel rocker

choices to be made in this project:

1. Surface texture
(hammered, brushed, high polish)
2. Gemstone, color/size

Metal will change color as you heat it.

1. Gold
2. Black
3. "Cherry Red"

Temperatures:

- Visibly red 900°F
 - Dull Pink-red 1200°F
 - Deep Cherry Color 1400°F
 - Bright orange/red 1600°F
- TOO HOT-Melting!**



shaping on mandrel

Tip!

solder will always flow in the direction of the hottest part of the metal.

Steps for Soldering:

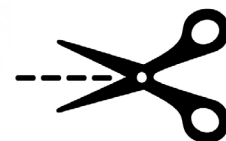
1. Piece must be clean without surface oils (by annealing or filing)
2. Pieces must fit together well (think puzzle piece). No daylight.
3. Layout project on solder block
4. With tweezers, place snippits of solder on solder block. Place seam on top of solder.
5. Brush seam to be joined with *flux* (the green stuff)
6. Dry flux (Turn on torch and heat with bushy flame. Flux may foam a little or flash orange)
7. Heat entire piece evenly. Pieces being joined need to heat to the same temperature
8. Watch solder flow, let cool to black, then quench in pickle.
9. Rinse in water, dry.
10. Check your joint.



solder under seam

my ring size is: _____ that makes the shank length: _____ "

size measurement + width of sheet = length of ring shank



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week 3

Skills we will discover in this session:

- multiple dimensional soldering
- following the heat
- torch skills



Bezel Construction

(the construction of a bezel typically takes a full class session)

first  pick your stone
pick your wall

Know how high your Bezel wall needs to be by using the "Goldilocks" rule.



Bezel Wall Steps:

1. Cut the right height for your stone.
2. Anneal wall strip and base.
3. Wrap around stone (use pliers to push against bottom of stone) and mark where the wire overlaps.
4. Cut with shears. Careful not to overcut.
5. Bring ends together in a tight fit.
6. Put solder snippit underneath seam.
7. Flux, and heat with torch to dry flux (bunny flame).
8. Watch solder flow, let cool to black, then quench in pickle.
9. Shape wall around the stone until it falls through without spring.

30 gauge for the wall
26 gauge for the base



solder under seam



shaping Bezel wire around a stone



marking the length.

Tip!
Measure and mark. Cut leaving a smidge past your line. Don't overcut... it is easier to cut excess then to start over.

Bezel Base Steps:

1. Wall must touch the base with no daylight. If there is daylight, file.
2. Place wall onto base.
3. Flux inside of wall on base.
4. A pinch of solder to the inside.
5. Move the solder to the intersection of the wall and the base.
6. Dry the flux.
7. Medium flame around the outside of the wall until the solder flows.

trim using shears



or use the base as part of your design (this requires sawing)



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week 4

Skills we will discover in this session:

- reticulation
- fusion
- creating a design for your bezel
- making a bail
- using a disc cutter



Fun with Fusion

Demo:

Reticulation; (a bold new texture)

Demo:

Fusing wire to sheet & wire to wire

Demo:

Using a disc cutter

Demo:

Designing and making a Bail

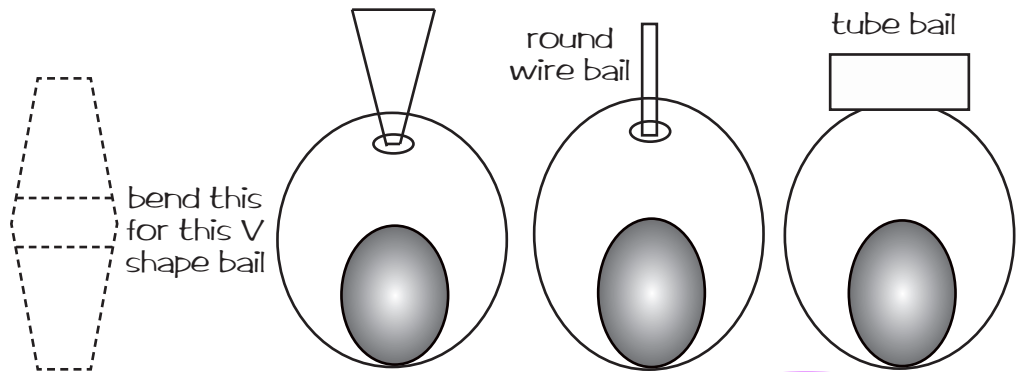
The Fused Wire Bracelet

1. 3-5 strands of 16 or 14 gauge wire 6" long.
2. Anneal wire.
3. Wrap ends with 22 gauge wire (thin stuff).
4. Place wire bundle on block.
5. Heat first end from end to about 1" in.
6. Heat until binding wire melts into strands.
7. Do other end. Quench. Dry.
8. File and sand ends until smooth.
9. Form around bracelet mandrel with rawhide.
10. Pull strands apart and shape with round pliers
11. Forge where shaped (random/optional)

Making a Bail

A bail is the finding that connects a pendant to the thing it hangs from.

A bail can be flexible or fixed depending on your design.



Reticulation Steps:

1. Anneal your sheet. (Cherry red, then quench, then rinse and dry)
2. Heat past Cherry red to semi-molten, then semi-cool.
3. Toggle this heat/cool step until you see wrinkles in the metal.
4. Repeat this heat and quench process multiple times.
5. Careful not to melt a hole through your metal
(although this could be a feature!)

Tip!
Reticulation takes multiple times with the torch to get a good texture.

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Beginning Silversmithing week 5

this session is:

- a few demos (food for thought)
- a guided studio... you get to play!!

Objective:

applying what you know and... PLAY!!!

Findings & Putting it all together



Project: of your choice.

Pick a technique that most appealed to you and apply it to a project of your choice.

Demo:

- soldering a post
- creating french earwire from 20 or 22 gauge round wire
- hooks & jump-rings... yes you should make your own

The order in which a project is completed:

1. Plan. Using what you know, think through a design.
2. Anneal metal.
3. Texture usually comes first.
Reticulation, rolling mill.
(Hammering can be the exception.)
4. Cutting, shaping, soldering & forging.
Think about the order of multiple stagings.
5. The finish: polishing, tumbling, or brushed finish or oxidation.
6. Stone setting. Always happens last unless you are sure the stone can withstand the tumbler.

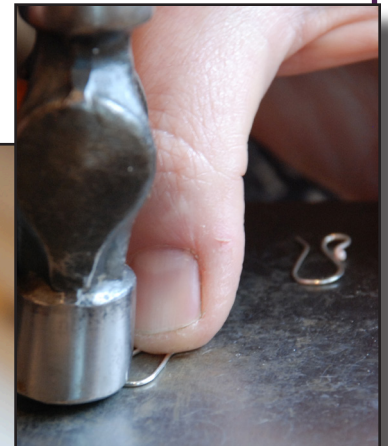
Making an earwire from scratch;

torch the end to create a ball

hammer the hook



shape into a hook



tumble to finish
& strengthen

Remember
the basics...
no-daylight rule...
solder plus flux plus
seam equals good joint

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