Introduction to Stone Lithography

These instructions provide a very concise guide to the preparation and processing of lithographs drawn on stone – please add your own observations.

Day one:
- DRAWING
- STONE PREPARATION
- GUM-ETCH THE DRAWN STONE

Day two:
- WASH OUT AND ROLL-UP THE DRAWN STONE
- APPLY THE SECOND GUM-ETCH
- SET THE PRESSURE ON THE PRESS
- PROOFING
- CLEANING AND STORAGE OF STONES

Step 1: Stone preparation

1. Set up sink for graining: put trough into sink to catch graining sludge.
2. Clean off old ink from the stone with white spirit and a rag. Leave to dry.
3. Using a brush and wearing gloves apply oil cleaner to the dry stone.
4. Leave to soak for one hour – scrub with a nylon scourer to encourage removal of grease. Apply more oil cleaner and repeat for old images.
5. Wipe off the oil cleaner with a rag and water.
6. Wet stone with water, sprinkle on carborundum grit and grain stone in ‘figure of eight pattern’. Keep the stone well lubricated with water and grit to ensure that scratches do not occur.

NB. Coarse grit will quickly remove old images; medium grit is good for removing recent work; fine grit will prepare a final surface suitable for finely drawn crayon and washes. When progressing from coarse graining to fine graining wash graining area and stone thoroughly.

Graining sludge must not be put down the sink – grit from the trough can be reused and waste dust emptied outside.
Step 2: Drawing

- Any material containing **grease** can be used to make marks on the stone: wax, litho crayon, litho drawing ink, tusche, quality boot wax, chinagraph pencil etc.

- **Gum Arabic** will form a grease resisting ‘negative’ area on the stone.

- When the drawing is complete make sure it is dry, to encourage absorption of the grease into the stone **warm air** from a hairdryer can be used.

- Ideally drawn stones should be left for some hours, or overnight at this stage.

Step 3: Gum-etch the drawn stone

1. Ensure that the drawing is completely dry and then dust with a little **French Chalk** (talc).

2. Mix up one or two gum etches: 30ml of **gum arabic** plus a few drops of **nitric acid**.
   - The average working strength is about **10 drops** of nitric to **30ml of gum**, however this varies considerably:
   - Areas in the drawing where there is a heavy deposit of grease will need a stronger mixture – **more acid**.
   - Lighter parts of the drawing where there is less grease deposit will need weaker solutions or plain gum – **less acid**.

3. Using a brush or small sponge carefully apply the **gum etch** to the drawn stone taking care not to disturb the drawing material.

4. Blot the gum gently with a soft rag until there is a thin film.

5. With a dryer dry the gum coating to a thin layer.

6. Leave the drawn stone to rest for at least **8 hours**.

Step 4: Wash out and roll up the drawn stone

1. Re-gum the stone with **plain gum**, and buff dry with cloth and dryer.

2. Gently remove the greasy drawing material with **pure turps**.

3. With a **wet rag** wash the gum from the stone.

4. Using a **clean damping sponge** damp the stone and begin ‘rolling-up’ with **Noir a Monter** using the nap roller.

5. **Continue to damp and roll** the stone thoroughly until the image is fully visible.
Step 5: Apply the second gum etch

1. Repeat step 3 making any necessary adjustments to the strength of the gum etch solutions.
2. Leave the stone to rest - for a few hours if possible.

Step 6: Set the pressure on the press

1. Put stone on bed of press and cover with paper and packing.
2. Lower tympan and slide through until scraper bar is a third across the stone.
3. Pull down impression lever.
4. Tighten pressure screw with a spanner.
5. Lift impression lever.
6. Pull out bed.
7. Tighten pressure screw approximately one half turn.
8. Ensure that the tympan is well greased and test operating pressure. Adjust as necessary.

Step 7: Proofing

1. Wash out and roll up stone with ink as in step 4; printing ink can be used instead of Noir a Monter if required.
2. Dry the stone using a dryer.
3. Place paper face down on stone and cover with packing
4. Lower tympan and ensure that it is well greased.
5. Slide bed through until scraper bar is just over edge of stone.
7. Turn handle to take bed through press. Lift impression lever and pull out bed.
8. Raise tympan carefully, lift packing and printed sheet.
Step 8: Cleaning and storage and stones

1. After printing the last sheet, **gum** up and dry the stone.

2. Wash out the image with **turps**.

3. Using a **wet rag**, wash the gum from the stone.

4. Using a **clean damp sponge** damp the stone and begin ‘rolling-up’ with Noir a Monter using the nap roller.

5. Continue to **damp and roll** the stone thoroughly until the image is fully visible.

6. **Dry** the stone.

7. Dust with **French chalk** and **gum** the stone.

8. **Dry** gum to a thin even layer.

9. Tape a sheet of clean cartridge paper over the stone to protect the surface during storage. Label with name and date.

Notes created by **Serena Smith**
[www.serenasmith.org](http://www.serenasmith.org)