

How to Hand-Carve Stone Walls

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O Scale West 2007

California Central Coast Modular On30

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The Challenge: lots of stonework !



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Summary of Steps

- Step1: Create a “blank”
- Step2: Draw the stones
- Step3: Carve out spaces
- Step4: Chisel all edges
- Step5: Recarve spaces
- Step6: Make a latex mold
- Step7: Roughen the surface
- Step8: Paint the stones

Step1: Create a “blank”



Step1: Notes

The blank is a shaped Hydrocal starting point

- May be cast as a solid piece of plaster (heavy)
- Optionally, fill mold 1/3 full of plaster and push a block of "blue foam" in, to conserve Hydrocal and make result much lighter
- Another possibility is to "paint" soupy Hydrocal over a foam core. This can be time-consuming but may be the easiest way to create complicated shapes (like an arched viaduct or tunnel portal, for example).
- When mixing Hydrocal, first fill container with water and add Hydrocal to the water. Continue adding until the Hydrocal is all wet and then mix to a soupy consistency.

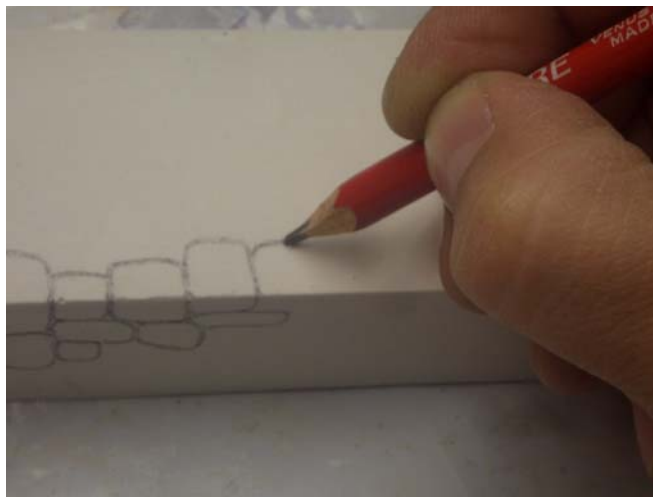
Let the blank dry for approximately 8 hours before Step2

- Allows plaster to strengthen
- Will still feel very wet (and heavy)

Shape the blank with a SurForm tool

- This is a toothed file used for drywall work. The blades are replaceable.
- Carefully remove any high spots to obtain a smooth surface. Be sure to clean the tool afterwards to prevent rust.

Step2: Draw the Stones



Step2: Notes

Use a “non-sharp” pencil to carefully draw each stone

- The pencil should have a round head, and actually removes some of the plaster.
- Use enough pressure to leave an impression in the plaster.
- Avoid the temptation to “connect the dots” and instead trace the outline of each and every stone.
- Start with corner stones. Be careful when crossing the corner to avoid chipping.
- Try to keep stone sizes random (unless you are making a cut-stone wall).
- Try to pass the pencil through any air bubbles that are present. The penciled areas will be removed in later steps (and hence so will the bubbles).

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Step2: Result



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Step3: Carve out spaces



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Step3: Notes

Use an 8R X-Acto knife to remove all traces of the pencil lines

- Pull the knife towards you, supporting the back of the knife with your fingertip.
- Try to trace the outline of each stone
- Use care in corners to avoid chipping
- Feel free to rotate the work when the direction of the line changes.
- If the knife slips sometimes, do not worry. Many mistakes will be obscured in Step4.
- The V-groove that is formed should be about 1/16 of an inch deep. If some are deeper, do not worry.
- The finished result of Step3 will look very similar to other stone carving techniques. We are going to take things a little further.

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Step3: Result



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Step4: Chisel all edges



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Step4: Notes

Use a ¼" wood chisel to take down the sharp V-groove

- Angled side of chisel faces down, just like if you were working on wood
- Use hand pressure to carefully follow all lines
- Try to eliminate any air bubbles. It is ok to carve down deeper to remove these.
- Purposely take some of the stones down 1/16" or 1/8" below the surface level of other stones, for visual interest.
- Feel free to scribe some deep lines across the faces of some of the larger stones.
- Clean the chisel after use to prevent rust (the plaster is very wet).

Step4: Result



Step5: Recarve spaces



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Step5: Notes

Using the same X-Acto knife from Step 3, recarve the spaces between each stone.

- This creates additional definition between each stone
- I generally do this the day after the other carving, more because of time issues than anything else.
- I also find this step a little easier if the plaster is dryer, hence waiting another day.

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Step5: Result



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Step6: Make a latex mold



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Step6: Notes

Using your favorite liquid latex, create a mold of the stonework

- After all that work carving, spend a few extra days to make a mold to easily duplicate it in future.
- The cost of this is minimal, but the payoff can be very high.
- Also a good idea if you are making multiples of something, like bridge abutments.

Take significant care with first coat

- Clean stonework with compressed air before anything else.
- Goal of first coat is to pickup all the details.
- Brush latex on with ¼" paintbrush, taking care to work the latex into all features of the wall
- Try to eliminate any air bubbles in the latex by using the brush
- Let first coat dry 4 hours

Brush on 2 more coats

- Use same paintbrush; goal is to get complete coverage with approximately 1/32" to 1/16" latex. Let each coat dry 4 hours.

Apply cheesecloth coat for strength

- Coat again in latex using paintbrush
- Apply single layer of cheesecloth over entire work if possible
- Apply additional latex on top of cheesecloth, working into the cloth with paintbrush.
- Let dry at least 12 hours
- Carefully peel mold off of work, taking care to loosen all edges first before peeling off entire mold
- Clean up any latex debris on work.

Step7: Roughen the surface



Step7: Notes

If you paint the plaster now, you will find that it is too smooth. A shiny surface can result

- Use a wire brush to roughen up all stones
- Note that this method is used on any stone walls cast from your new latex molds
- I use a brush that is sold in hardware stores for cleaning metal before welding or soldering; it has brass bristles that are of medium stiffness.
- Scrub the stones in multiple directions. Plaster dust will be produced, so avoid inhalation. Make both shallow passes as well as deep ones.
- Note, you can also use coarse #0 steel wool to roughen up the stone surfaces.
- When finished, clean off work with compressed air.
- Congratulations, you are finished the carving stage

Step7: Result



Step8: Painting

I prefer to paint each stone individually

- Paint the entire stonework with Woodland Scenics Slate Gray, slightly diluted. Goal is to have no white plaster showing.
- Paint each stone individually with differing colors. I use a ¼ " flat brush and a ¼ " angled brush. Take care here to not paint neighboring stones identical colors.
- When dry, I dry-brush with white, gray, and yellow paints. Use the same ¼" flat brush, dip in one of the above colors, and scrub almost all the paint out onto a paper towel. Then brush onto the stones. This will highlight the details you have put in.

Other Possibilities

Trestle Abutments

After Chiselling



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Making the latex mold



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Making a whole bunch



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Final Result



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Other Possibilities: Small Bridge Abutments

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King Post Truss Bridge

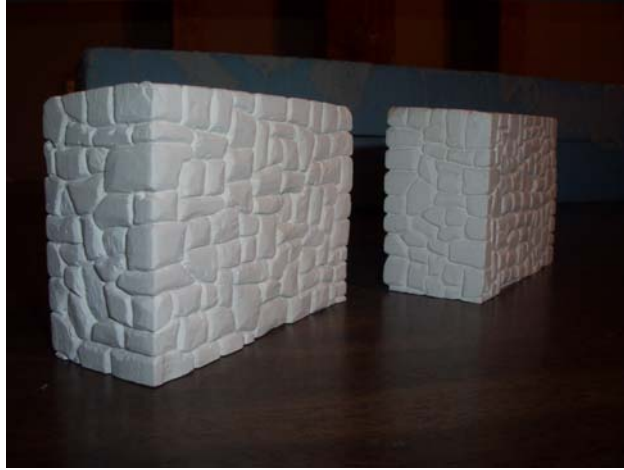


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Carved Abutments



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Note: Hydrocal painted over foam cores



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Tools

8R X-Acto knife

- Available at most hobby shops

SurForm Tool

- Available at Ace Hardware, OSH, or Home Depot

Wire Brush

- Available at Ace Hardware, OSH, or Home Depot

Pencil

- Available anywhere

Materials

Hydrocal

- I buy mine from Scenic Express, but you can use most plaster types

Compressed Air

- I buy mine from Fry's – this is the canned air for cleaning monitors

Blue Foam

- This can be tough. There are some building supply stores that carry it.

Paints / Brushes

- I buy mine from Michaels – Acrylic paints in the 2 oz bottles