



CLASS GUIDE



Creating Rock Scenery

with Doug Hodgdon and Mike Swiridow

Regardless of what part of the world you model, it's likely that the terrain includes some rocks. Whether they are large mountains, bluffs over a river, or a shallow rock cut through rolling hills, rocks are a common element in scenery nearly everywhere. This class will help you blend your rockwork into the surrounding scenery to create a scene that comes to life.

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INTRODUCTION

Rocks are one of the key components to great scenery from nearly any region. Realistic rock modeling, therefore, is essential to the scenery on nearly any layout.

One feature that is commonly seen on many prototype railroads is the rock cut. Cuts allow trains to traverse hilly terrain without the extra effort and fuel cost of climbing every hill. Rock cuts are great features to add interest to the scenery on many model railroad layouts.

In this class, you'll learn how to make a rock cut consisting of plaster rocks. The materials used for the rocks in this class include rubber rock molds, Plaster of Paris, plaster cloth, rock stains, India Ink wash, expanding spray foam, and colored ground foam.

This cut is part of the Pine County History Museum Model Railroad Club layout. The layout depicts the Great Northern Railway and the Northern Pacific lines between Minneapolis and St. Paul, Minnesota in the steam-to-diesel transition era of the late 1940s. The focal point is in Pine County where the two railroads crossed one another. This rock cut will add some real visual interest to the scenery on this fine layout.



The Great Northern and Northern Pacific railroads run parallel between Minneapolis and St. Paul, MN on the Pine County History Museum Model Railroad Club layout.

TOOLS AND MATERIALS

The key to a successful project is having the right tools and materials. To cast the rocks for this rock cut, rubber rock molds will be used. Pam cooking spray will be applied to the mold before casting to serve as a release agent, allowing the castings to be taken out of the detailed molds easily without damaging the rock detail or the molds.

Rock castings must often be cut to size. A fine-toothed saw works well to trim the castings to the desired size. For thick castings, cut half way through the casting, then snap it in two at the cut.

Expanding spray foam will be used to fill gaps behind the rocks. Plaster cloth will fill in the scenery base around the rock casting. Special rock washes will be used to color the rocks to the desired shades, and an India Ink solution will bring out the highlights in the rock texture.

After the rocks are set and colored, ground foam will add texture and blend the rocks into the surrounding scenery. Trees and other scenic elements will then finish off the scene.



Cooking spray is a good release agent for rubber rock molds. Spraying it in the mold before casting a rock helps to ensure that the rock will be easily removed.



Cast plaster rocks are easily cut to size with a fine-toothed saw.

PLANNING THE SCENE

Planning is essential to be sure that the rock cut will blend well with existing scenery and not impede passing trains. Be sure to plan for structural and other elements that will surround the scene, like the Plexiglas shield that will protect this scene. Test fit the rock castings to be sure they will fit and will leave sufficient clearance for passing trains. Test-running your longest pieces of equipment will help ensure proper clearance.

Mark where the rocks will sit on the layout. Remove any existing scenery elements like trees and structures that might be damaged by your new scenic work. As the new rock castings are worked into existing scenery, plan for how the rocks will attach to the scenery and how the transition between old and new scenery will be blended. Here, expanding spray foam will be used to fill in the large void between the rocks and the existing hillside.

Scenery work can be messy. It is always a good idea to protect existing track work. Cover track with low-tack painter's tape to be sure that plaster, foam, and other material does not mar or damage your track.



Rolling some of your longest rolling stock through the new scene will help insure that adequate clearance is available and trains will not hit the new scenery.



Mark the planned location of the rock castings to ensure that they fit correctly when they are finally glued in place.

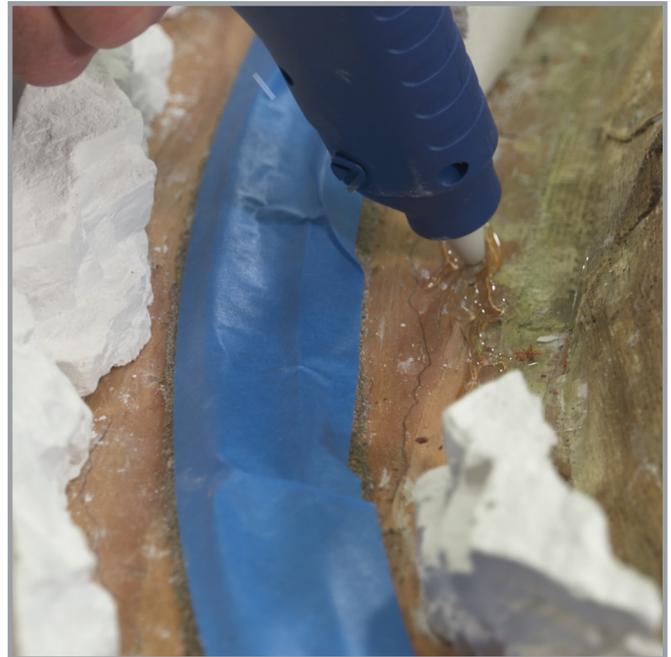


Blue painter's tape should be used to cover track to avoid damaging it with new scenery material.

INSTALLING THE ROCKS: PART 1

Now that we have laid out our rock castings and the surrounding scene, it's time to begin installation. The castings are glued in place with hot glue from a hot glue gun, lining them up with the guide lines made earlier. The hot glue will set up quickly, allowing us to move forward very quickly.

Obstacles within the layout space like support posts and wall corners can be disguised by using rocks and other scenic materials to build up around the obstacle and incorporating it into the scenery. Any portions of the surrounding scenery that will not blend well with the new rock castings should be reshaped or removed. In our case, we cut away some extra foam with a hot knife to make room for the final rock castings.



Hot glue is ideal for installing rock castings as it is strong and sets up quickly.



A hot knife or hot wire cutter works well for cleanly cutting foam scenery base material.

FILLING IN WITH EXPANDABLE FOAM



Expanding foam is applied from a spray can to fill in the voids between the rock castings and the existing scenery to support the new scenery that will be added on top of it.

With our rock castings in place, it's time to fill in the voids behind the rocks. There are various techniques that can be used to accomplish this task. We will show you another technique in a later session. For this step, however, we will be filling the void with expanding foam. This product expands greatly over the course of several hours as it sets. The idea here is to supply a filler to support the scenery above.

In our application, a piece of foam core holds the space where a piece of Plexiglas protector will be installed. To help keep the foam from sticking to the board, a light coat of cooking spray is applied to the foam core board. After the foam is cured it can be carved and scenery can be added on top of it.



Non-stick cooking spray is applied as a release agent to items that may touch the expanding foam but will be removed like this place holder for a Plexiglas protective barrier to be added later.

CREATING THE CONTOURS

After the expanding foam has had time to fully cure, plaster cloth is used to cover the foam and create a base for new scenery. Plaster cloth is a plaster-impregnated gauze. When wet, the plaster activates and, when it dries, creates a hard shell. For strength, it's a good idea to layer the plaster cloth, alternating the orientation of the strips.

Plaster cloth strips are pre-cut to size. They are then dipped in water and simply laid over the area to be covered. Overlap the plaster cloth pieces. Avoid laying the cloth on the rock castings or other scenery that you do not want to cover up.

As the plaster cloth is applied, rub the surface lightly with your fingers to spread the plaster and cause it to stick to the surrounding scenery.



Plaster cloth strips are pre-cut to size in preparation for covering up the foam filler to make a scenic base.



Wet plaster cloth is laid in place, overlapping the pieces, and layered in different directions to make a strong, hard shell.

INSTALLING THE ROCKS: PART 2

With our plaster cloth dry and hard, we will be installing more rock castings to raise our rock cut higher on one side. We are using Plaster of Paris for these rock castings, but there are many different types of plaster that can be used. Plaster sets up very quickly, so work in small batches.

Water is added to the plaster to mix it to a quite thin consistency. More cooking spray is sprayed into the rubber rock molds to serve as a release agent, allowing the detailed rock casting to be removed easily from the mold without damaging the finer details of the rock. Pour the thin plaster mix into the mold and set aside to harden.

A second batch of plaster is mixed up to serve as an adhesive between the rock castings and the plaster cloth. Plaster makes a good adhesive between two plaster components like our rock casting and the plaster cloth. Apply a layer of plaster to the plaster cloth surface, then set the rock casting into it. You can use your finger or an artist's knife to shape any plaster that squeezes out.

Use any excess plaster to fill in any gaps that remain between any of your rock castings. As the plaster begins to set up you can use the artist's knife, a hobby knife, a wire brush, or other tools to carve and shape this added plaster to give it a rock texture and blend it with the surrounding rock castings. Use plaster and the artist's knife to blend where the rock castings sit on the plywood or other base material. A little water on your tool or the tip of your finger helps to blend plaster that has begun to set up.



Thin plaster is poured into rubber molds to cast beautifully detailed rocks.



Plaster is used to fill in the spaces between rock castings, then carved to a rock texture with various shaping and carving tools.



A chisel is an excellent tool for carving plaster to create definition and texture to the rocks.

As the plaster begins to get hard, a chisel or flat screwdriver can be used to carve and chip more rock texture into the plaster. Work in small areas at a time to give yourself plenty of time to get the effect you want before the plaster sets up.

The new void created behind our new rocks needs to be filled. Instead of using more foam, paper towels can be used to fill a void as well. The paper towels are wet slightly to keep them in place. Fill the void to the level desired. More plaster cloth is cut and placed over the paper towels to create the final scenery base. The same process is used as earlier for applying the plaster cloth.

A thin layer of plaster is applied over the plaster cloth to create a solid scenic base. This layer can be applied with a paintbrush or simply spread on with your fingers. Use the plaster to fill any seam between the plaster cloth and the rock castings. Smaller rock outcroppings can be applied right into the plaster. It is best to moisten the back of the dry rock casting to keep it from wicking moisture out of the plaster too quickly.

If you want more variety in your rocks than can be achieved with commercial rock molds, you can make your own rock molds using a latex material available at craft stores and hobby shops. With this material you can make molds from real rocks that you find in nature.



Wet paper towels can also be used for filling voids that will be covered with plaster cloth to form a scenic base.



Custom rock molds can be made using a latex molding rubber and painting it over real rocks found in nature. These molds can add variety to the shape and texture of your rock work.

ROCK COLORING

After the plaster has fully cured, it's time to start coloring the rocks. Do some research to see what colors rocks are in the areas you model and choose paints or washes that match. In our case, we are using rock pigment washes from Woodland Scenics.

Use a spray bottle with wet water (water with a couple drops of dishwashing liquid added to break the surface tension of the water) to dampen the rock surface. There are many methods for coloring rocks, but with washes it is a good idea to work from light colors to dark.

Start by completely covering the rock surface with your first light color. Dab on generous amounts of the color with a foam brush and let it fill in the rock texture in various amounts. This will help create a variety of coloration which will look quite natural for rock surfaces.

With the first color applied, begin adding the next darker color. Continue to dab the pigment onto the rocks, but less vigorously than with the first color, allowing some of the lighter color to remain. A mist of water will help the colors blend in places and will run down the rock surface, creating a natural weathered look. With each successively darker color apply less stain to continue to add variation in color across the rock surface. When you are satisfied with the rock coloration, let the pigment dry before moving on to the highlighting step.



When coloring rocks with stains or washes, work with light tones first and work to the darker ones. Dab on generous amounts of the rock stain with a foam brush.



As successive colors of stain are added to the rocks, the surface takes on a variation of color that highlights the texture of the rocks and gives them a very natural look.

SCENIC FINISHING



Mist a solution of India Ink and alcohol onto the rock surface to add texture to the crevices of the rock face.

With the rock colors dry, you can highlight the rocks to accent the texture. To do this we use a solution of India Ink (available in art supply stores) in isopropyl alcohol. Spray or wash a light coat of the solution over the rocks, allowing it to run into the cracks and crevices of the rocks. The alcohol will dry quickly, leaving the black to darken the voids and add texture.

Now that the rocks are complete, it is time to add scenery to the scene. For initial texture, cover the area to be textured with your favorite scenic cement, then sprinkle an earthy or light-colored ground foam over the surface. Add variation by adding darker colors of ground foam over the top. The patchy areas created by various colors creates the illusion of grass, weeds, earth, and other ground cover as it appears in nature.



Sprinkling various colors of ground foam onto the scenic area creates the color and texture of earth, grass, and weeds as they cover the scene.

As the ground cover builds up, adding a bit of coarser ground foam creates the look of clumped grass and wild shrubs. When all the texture material is in place, spray the entire area with scenic cement. Spraying the cement above the scene and allowing it to mist down on the scene lightly allows the glue to do its job without blowing away or washing away the texture material. A small amount of texture on the rocks in some places will look natural, but take care not to allow too much of this material to stray onto the rock surfaces.

Trees help to fill out the scene. With an area that is quite steep, trees can help disguise the steepness of the scene. Depending on the area modeled, a mixture of pine and deciduous creates a very realistic scene.

To finish off the rock cut portion of the scene, loose rock at the base of the bluff represents broken and decaying rocks from the cut. For this, talus is added in various sizes. Smaller talus can also be added lightly in flat places across the rock face. These rocks are again glued in place with scenic cement. Color can be adjusted to match the existing rock with more pigments or India Ink.

With the scene complete, a simple test with a piece of rolling stock or a locomotive shows the beauty of the scene as trains will roll through it.

This will be a scene that you can enjoy for years.



Spray scenic cement above the scene and let it settle down onto the texture material to avoid blowing or washing the texture away.



Adding a variety of trees adds life to the scene.



Talus is added to the base and flat surfaces of the rock face to represent fallen, decaying bits of rock.

