

Spring 2025



The Relay

A publication of the Chesapeake Division of the Mid-Eastern Region of the NMRA

View from the Cupola

I am pleased to be back with you in the pages of the Division newsletter. I hope you had an enjoyable winter of model railroading – perhaps working on projects on your model railroad, operating with others in a local round-robin group or on a club layout, or enjoying some other aspect of the hobby. There is much fun to be had in this terrific hobby!

If you were able to join us for the Division Modeler's Day-In (MDI) March 29, you were certain to have enjoyed yourself. We had a good turnout and many, if not all, who attended, participated in the hands-on weathering clinic Jeff Burch provided. Unfortunately, I was away the weekend of the 29th due to another commitment and was not able to attend. As consolation, travel to and from that conflicting event was aboard an Amtrak train, so I was able to temper my disappointment at having missed MDI.

The following weekend, April 5, I was able to attend South Mountain Division's MiniCon in Blue Ridge Summit, PA. They put on a terrific event each year. If you have not attended, I recommend you make time for it at the next opportunity. I met several friends while attending a few table-top clinics and made a couple of new acquaintances as well. I would enjoy seeing you there, too.

I highlight my recent model railroading experiences above, hoping that you will take advantage of the opportunities offered by the Chesapeake Division and other nearby NMRA

The Relay

The official publication of the Chesapeake Division of the Mid-Eastern Region of the NMRA, a tax-exempt organization. The Relay is published quarterly. The opinions expressed within do not necessarily reflect those of the Chesapeake Division, MER or NMRA officials. Commercial suppliers, supplies and materials addressed in *The Relay* in no way constitute an endorsement by the MER or NMRA. Copyrighted material that appears in *The Relay* is used for educational and historical benefit only and does not constitute infringement of the copyright holder.

Superintendent: Kirk Bateman
super@chesdiv-nmra.org
Assistant Superintendent: Mike Shylanski
asstsuper@chesdiv-nmra.org
Director-At-Large: Travers Stavac
directoratlg@chesdiv-nmra.org
Paymaster: Dave Arday
paymaster@chesdiv-nmra.org
Clerk: Tim Beatty
clerk@chesdiv-nmra.org
AP Manager: Kurt Thompson, MMR
ap@chesdiv-nmra.org
Division Newsletter: Kurt Thompson, MMR
newsletter@chesdiv-nmra.org
Webmaster: Kirk Bateman
web@chesdiv-nmra.org
<http://www.chesdiv-nmra.org>

divisions during the remainder of the year. You'll find information about upcoming Division activities and other model and prototype railroad activities on our Division website at <http://chesdiv-nmra.org>. If you have any thoughts or requests for activities that you and your fellow Division members might enjoy, please contact me (super@chesdiv-nmra.org) or the Division newsletter editor (newsletter@chesdiv-nmra.org) and let us know.

Finally, I hope you enjoy this renovated and reinvigorated edition of the Division newsletter. I would like to thank Kurt Thompson for taking the initiative to get it going again, as well as extending a hearty thank you to those who contributed content.

Kirk Bateman, Superintendent

From the Editor

Fellow Chesapeake Division members, welcome to the revamped and resuscitated *Relay*. After several months of procrastination and life getting in the way, Kirk Bateman and I are now presenting this issue.

If the issue seems a little light, it is. Won't deny it. Though I am the editor and publisher, I can only print what articles you submit for publication. Also I would love to fill out the issues in the future with current project photos. I've added several photos of my Southgate Terminal Warehouse in progress. So if you get tired of the same projects being documented, please show the Division yours through *The Relay*.



In this issue, we have two articles that have grown roots in my inbox. Also a couple articles on our latest Modelers' Day In and Jeff Burch's hands-on weathering clinic held at the MDI.

Kurt Thompson, MMR
Editor



N-Scale Model Kit Review:

Painesville Depot from Leopard Architectural

Recently, I completed a unique 3D printed model by Leopard Architectural Models of the New York Central Railroad Painesville Depot. The structure is located about 27 miles east of downtown Cleveland along Lake Erie on the NYC (Lakeshore and Michigan Southern) mainline. Opened in 1893 as a replacement for an 1851 wood structure, this Richardson Romanesque structure was designed by the firm of Shepley, Rutan & Coolidge of Boston, MA. Today, the structure is preserved as the Painesville Railroad Museum, see: painesvillerrailroadmuseum.org

This N-Scale model features a very nice relief of the stone structure with a large single piece roof including the Porte Cochere. The footprint of the model is 10 x 5 inches. Leopard AM provides the 2 side walls, the curved end and flat end, window frames and doors as well as the eave brackets and 2 columns for the supports of the Porte Cochere, chimney and vent. It is also available in HO.

The fit is good, but test fit and do any filing of the interlocking stone sections before assembling. I built it using Walther's Goo then once I got everything lined up, glued it with slow setting CA. You would first want to straighten the long walls in a hot water bath per instructions. I attached the station platform (north wall) to the curved east wall first, teased into a good fit using a couple of dabs of Goo. Once satisfied, I used the CA, then "goosed" the "Street" (south) wall to the curved end. After this looked good, I used Goo to attach the short flat West wall to both. After checking the flat West wall to be squared up with the side with no ugly joints or vertical issues, I used CA on the curved east end and south wall joint. Leaving that "goosed" gave me some "tweakability." Once all was squared up, I used CA on the two the west wall joints.

I filled in any open joints with a combination of Testors gray putty, partly dried Elmer's glue and Mr. Surfacr primer paint. The walls were then painted with a base of Krylon Almond flat, then

selected stones were highlighted with Vallejo (AV Model Color) Light Gray and Medium Flesh Tone. Window frames, doors and brackets were done in a Krylon pea green color (must have used it up and disposed of the spray can). These fit from the inside very well. After assembling the walls, I sprayed with a matte finish and then had to provide the clear window material, which is not part of the kit - seemingly the norm for 3D printed kits. Here I used Evergreen 0.05 inches clear for the curved windows and 0.2 for the flat ones. I cut the flats to cover several windows and attached them with Goo.

The underside of the roof was done in Rust-Oleum Ivory Silk The top was sprayed in Flat Black. It was too shiny. A couple of attempts to weather the roof with chalk looked great until I tried to dust on a Flat or Matte coat with a spray can. Blew it all away. (Yes, I knew better and did not have high hopes.) I tried to drybrush some very dark gray and other shades of flat black but was not at all satisfied. So, I re-sprayed it with Flat black. Before I dragged out my airbrush, I tried to brush on Tamiya Medium Blue (XF-18) While not the correct color of the roof, it had been my thought to try to mix some dark gray, but I saw the medium blue over black was only a bit lighter than the shade I was looking for (okay, maybe 2 shades lighter) but hot dog, it was FLAT. Hence, I decided to leave well enough alone.

The roof was then joined to the completed wall section. The fit was pretty good and having such a deep overhang (about 5/8-inch) hides a multitude of venial sins. As long as the roof sits flat and tight. Good!

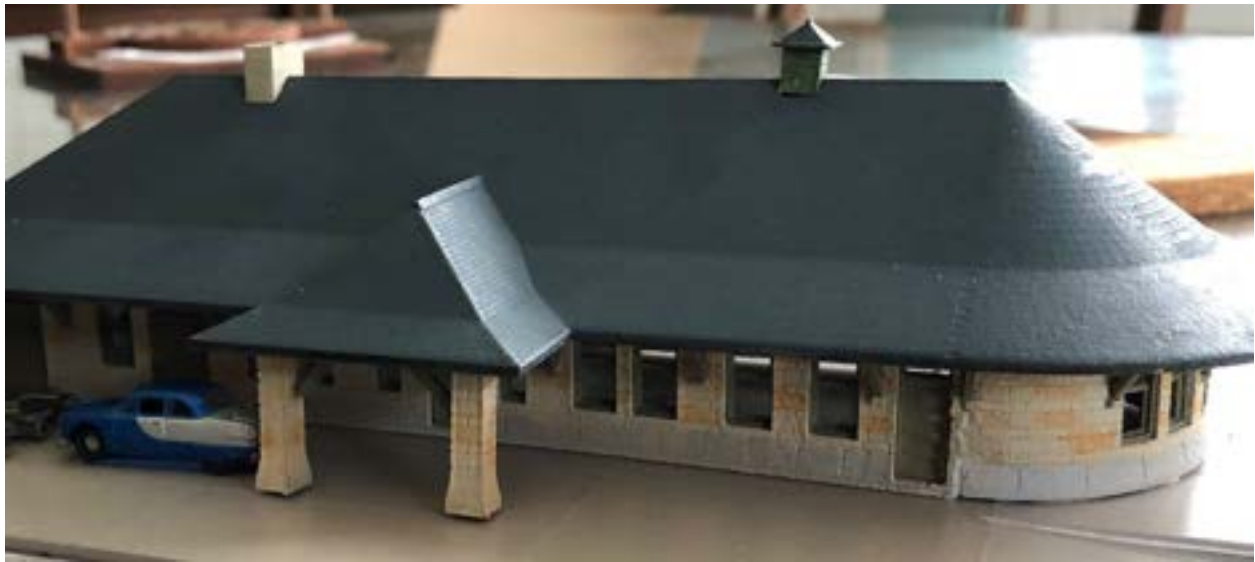
Last was the base. Since my intent was to put this on either a T-Trak or FreeMo module, I felt the trackside of the base needed to be at least at railhead level. So that meant the "Street side" would be too high. The base is a piece of 3/16-inch Gatorfoam cut to fit under the station, plus longer at the ends. On top of this was a 2mm piece of Sintra 12 x 5-1/2 inches painted and scribed to represent a concrete base. I then cut slices into this 2 mm sheet so there are ramps up to and down from the Porte Cochere.

At this point, a bit more work needs to be done with the base before mounting it to a module. I've noticed a millimeter of putty or other preferred way to blend in a slight gap would make it right.

Conclusion: This is a really unique model, a rendition of a classic large suburban railroad station that is assembled easily. It is not quite a "shake the box and it falls together" model, but on par with a DPM. The architecture is similar to other NYC and Boston and Albany stations and is very much at home for a number of Northeastern railroad settings. It is a low volume kit, not cheap, but you will most likely not see many on other layouts. I think the pricing is very much in line with other rare or craftsman kits of this size. I know the originator put in a lot of thought and dreams on how to make his original which is an HO model. There is a similar but smaller and less expensive station, the East Brookfield Depot, they also offer. Have a look!

There is a similar N-Scale Architect station available in N and HO kit with no rounded end.

Alan M Del Gaudio



How to Pick a Track Plan! Or, How to Get Something Going!

Most of these articles start with a little history, so I will do the same. After WWII my father returned, and being a carpenter he and dozens of friends built us a home. It was something new for the time, a split level. What I remember most about it was the basement, where he had assembled American Flyer track and trains on what must have been three full-size sheets of plywood.

The plywood was painted green, with roads and such added in appropriate colors – definitely not scale railroading, but certainly realistic to me at about five or six years old. Structures were blocks of wood of appropriate size with rooflines cut in, and with windows and doors painted on (I said he was a carpenter, finding 4x4 and 6x6 blocks of wood was not a problem).

By Junior High I was into HO scale (a small version of the PPRR [Plywood Pacific Railroad]), and then it was off to college and, later, marriage in 1965. But, my wife, Sherry, knew in advance that I was a model railroader – I doubt she really knew what that meant, but when copies of Railroad Model Craftsman (RMC) and Model Railroader (MR) accumulated in the bathroom she wasn't really surprised.

I started a small module in our second apartment in 1967-69, and a layout in our first home in 1969-71. When we moved from Missouri to Columbia, Maryland in October 1971, I immediately started playing with ideas for a layout. We moved from an apartment to our current home in April 1972 – and I was the proud co-owner of a good-sized basement, with utilities conveniently sited so that I could easily claim a 17'X 17' corner.

By now I knew it would be a scale model railroad, modeling a logging road, as I had already accumulated two brass locomotives (a United Class B 2-truck Shay in 1963 (\$54.50 + \$10 for

painting and a number) and a NWSL CP 2-8-2 Mikado in 1965 (\$49.50 + \$15 for painting and a number), and a good number of what today would be considered craftsman kits for rolling stock (I told you she knew she was marrying a model railroader). With the move in April, I was behind in my reading, but I was already erecting walls around my “corner,” when I finally happened upon the March 1972 issue of MR.

There it was, the Saugatucket River RR. Track Plan, by Robert Silas!!!!!! The track plan included a “log loading area,” and was drawn as a semi-rural “shortline common carrier in New England.” The only problem (problem?) – it was drawn for a space of 10’X 14’6”. What to do when I needed 10’ X 17’? For me, the solution was to “slide” the bottom of the plan down and left, bringing the mainline in on the track occupied on the plan by Monument Works. This left room at the lower right to swing up and across the doorway, and also to allow for more scenery and perhaps a lift-out to connect Timothium and PamelCare (now a permanent, with scenery well to my taste, duck under).

I worked continuously, albeit slowly, first concentrating on the module-sized portion now known as PamelCare, for our daughters. I used 1/2" plywood (cookie cutter style) and cork roadbed throughout, Campbell low profile ties, code 70 rail, and several thousand spikes. I initially attempted to make my own switches, but this was before Fast Tracks and I tore them out and replaced them all with Shinohara #4s. (I have not had a problem with the locomotives on the #4 switches. All of my locomotives have relatively short wheelbases. I have had continuity problems in the last few years.) All track work is in, and about 75-80% of the layout is split about 50/50 with “basic” scenery and scenery I am relatively proud of and fine with – until I can get the remainder up to that same level.

Other changes included extending the tracks at Sherryville (named for obvious reasons) through the wall onto a staging platform (track not installed), and turning the former mainline into Timothium, for yours truly, into the wall for a small marshalling yard above staging (track in is, not powered, and it is home to a Walthers New River Mine structure).

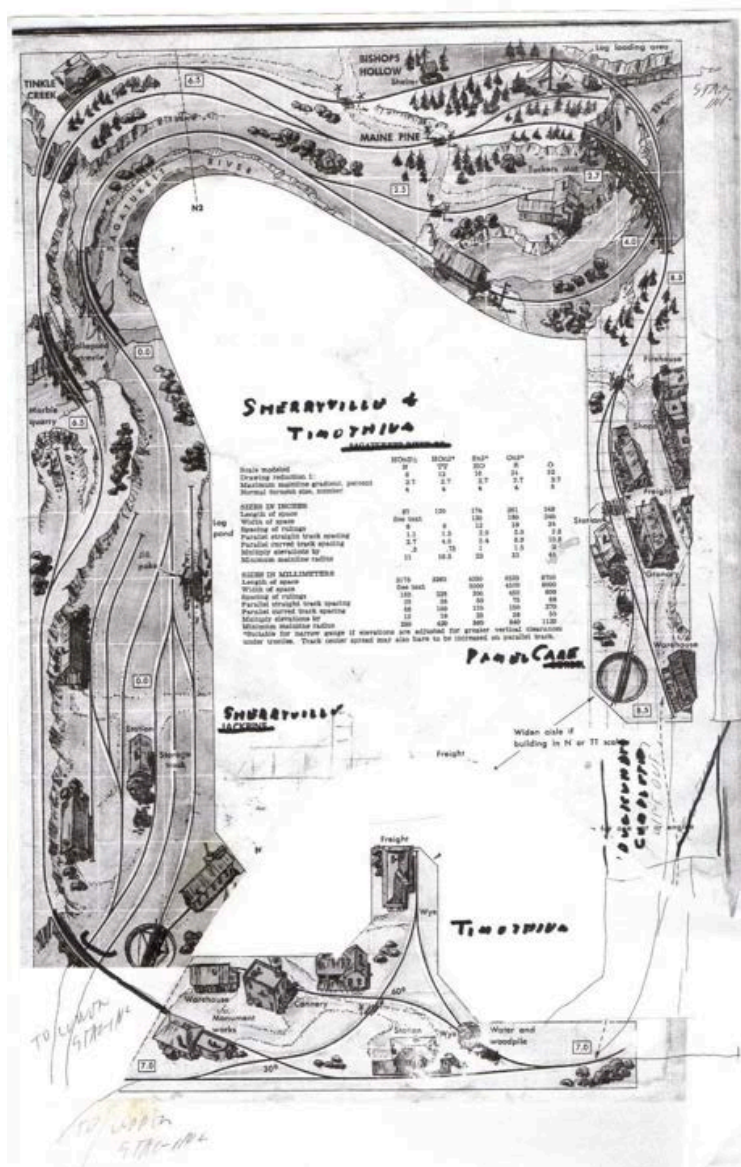
The “logging” theme was proceeding well, until I attended the 2007 National Narrow Gauge Convention in Portland, Maine. On Saturday, Sherry and I, and another modeler looking for a ride, went to Peabody, Massachusetts to see George Sellios’s fabulous Franklin and South Manchester Railroad. That did it! No trackwork needed to change on the layout, but since scenery was not that advanced it was simple to envision a crowded urban/industrial section for Timothium. That about covers it – but I should mention that any similarity between the structures and their placement on the track plan and those on my layout is purely coincidental.

I often get questions on hand-laying track; I have four spikes per tie, every tie. I actually found it therapeutic. And, if there is spiking to do up front, you can do a little at a time. I once did spiking wearing a tuxedo. It beats sitting in the living room making both of us angry by calling up and saying “are you ready yet?”

I’ll be happy to discuss construction and other facets of layout construction if anyone is interested.

I’ll close with two tips:

- Tim Beaty
Clerk
Chesapeake Division, NMRA



Covering the Hiatus or News from the Division for the Division

Kurt Thompson, MMR

This issue and the next couple will be dedicated to get us all back into the mood of recovery. COVID officially ended back in 2021 and life returned to (a new) normal. However, the publication of our division newsletter continually failed to get back on track.

With this broad opening, I'm hoping everyone will take stock of what you've been up to for the past 3 plus years in your modeling and hobby.

In my little part of the hobby, my modeling focus has changed. The O scale C&LE Moraine Division was torn down two years ago. The layout was dismantled in an orderly fashion so I could reuse as much layout substrate as possible. The FastTrack switches were sold to some other O scalers along with the switch building jig.

To replace that layout, I remained in O scale but decided to tackle my next layout using the Proto48 standards. The basis for my current layout is the C&O Brooke Ave. facility in Norfolk, VA. If you want some background on it, check out Bernie Kempinski's article in a back issue of the 2003 Model Railroad Planning.

Since my layout isn't going to be any larger and I'm proficient at hand laying track, this will allow me to spend more time and care on the track. The big issue is getting P48 trucks and wheelsets until the approximately 30 freight cars I'll need. I've already acquired the one locomotive I need - a GE 44-tonner which has already been regauged to P48.

If you're wondering what P48 is about, here's the quick answer. All ready to run O scale equipment runs on track with a 5 foot track gauge (1-¼ inches between the rails). Proto 48 uses wheelsets and trucks properly gauged to 4' 8-½" between the rails. The rails are gauged to 4' 8-½" scale inches. So all the equipment has to have new wheel sets with properly gauged wheels. From the end of the car, the difference is clearly visible in the gauge and where the wheels actually sit.

During the pandemic, I tried to move forward a project that I've been interested in for years - the original Roadrailleurs by the C&O from the late 50s. So to get the most information, I joined the C&O Historical Society. Joining a historical society is usually met with some concern, since the joke is you have just joined (insert railroad name here) Hysterical Society, instead of Historical.

I've found the C&O Historical Society isn't that way for me. I've learned a lot more about the C&O that I didn't know I didn't understand or was misinformed about, especially how and why the C&O had two parallel routes between Richmond and Clifton Forge, Virginia.

As I mentioned earlier about the C&O Brooke Ave. Norfolk facility, I'd been long fascinated by float barge/rail operations. I'm just not keen on New York City operations. They are each intriguing in their own ways, but none of the railroads hit the mark for me to jump into one of them. Brooke Ave. changed all that with the archival information and photos from the C&O Historical Society and Bernie Kempinski's well-written Layout Design Element (LDE) article in the 2003 Model Railroad Planning.

So that's where I am now. The benchwork has been up for a few months. The plywood and Homasote installed and painted. And the ties are all glued in place and then stained in place. Now I have several tracks (yes, a pun) of work to do - building several O scale Intermountain kits, building switches in place (19 in all), completing two more building mock ups, and the list wanders away from me at this point.

The following pictures are my in progress work on the Southgate Terminal Warehouse at the C&O Brooke Ave. facility. Amongst the Arnold/Severna Park group, it's known as the BFW, as the Big Fricking Warehouse.

On the track laying front, a new wrinkle arose when I found an O Scale manufacturer who makes 3D printed P48 flexible tie strips so I don't have to gauge the rails myself while I'm trying to spike them. The tie strips are perfectly gauged. Well, the ties are now going to be removed so the tie strips can be installed.

Thank goodness, retirement is in the near future - sometime between October of this year and August of 2026. That's under negotiation with my wife.

So what have you been doing? Time to check up with the rest of the Division.



The Gatorboard substructure of the Southgate Terminal Warehouse



Lots of corner bracing to keep the warehouse square.



The loading dock underside being braced.

Weathering Workshop

Jeff Burch

Introduction

Welcome to the weathering workshop, or rather the print version as opposed to the in-person workshop that we had at the Chesapeake Division Modeler's Day In on Saturday, March 29th. The purpose of this workshop is to provide an overview of different weathering techniques that you can apply to your railroad models. None of the techniques presented here require an airbrush. The techniques described include oil paint dot-filters, oil paint fading/bleeding of lettering, pigment weathering, and weathering enamels.

Why should you weather your models?

There are several reasons. Here are a few of mine:

- First, it can add realism to the models. Railroads and the locations that railroads travel through are typically not what one would call tidy. Weathering makes our railroad equipment and scenery look more like the real thing.
- Second, the visual variety adds interest for the model viewer. One technique that I am going to describe (dot-filters), adds color variance to the model's surface and makes it look more appealing. The model is still a red caboose, or a black coal hopper, but it looks more complicated and interesting due to coloring that is added to the basic model.
- Third, it makes the model more original. It is no longer a KCS 5188 cubic foot covered hopper like every other KCS hopper at the model railroad club. It is more distinct. You added your own touch to it, or perhaps you got the weathering to match a prototype that you photographed when you were visiting the in-laws in the Midwest.
- Fourth, it is a useful basic modeling skill for you to develop. Weathering can cover a multitude of modeling mistakes. Additionally, learning to weather a model well can add to its appeal when it is shared with other modelers at division get-togethers, Railroad Prototype Model meets, and regional or national conventions.

Weathering Techniques

Before Getting Started

Before beginning the weathering process, your model needs to be prepared. I recommend removing the trucks and couplers, so that you don't foul their mechanisms with the paints, powders, or thinners. Second, you should spray the model with a clear, flat varnish (i.e. Testors Dullcote, Krylon Matte Finish, Vallejo Acrylic Matt Varnish, etc.). This provides a uniform surface for the weathering compounds to stick to, and it provides a "reset point" of sorts for you to remove the weathering compounds, if you are not happy with your results. You should allow your clear-coat finish to dry for 24 hours before proceeding.

Oil Paint Weathering

Using oil paints for weathering comes with a big benefit: the ability to have an extended working time to get the weathering looking the way you want and even the ability to remove all or at least most of the weathering if you are not happy with it. The working time of oil paints is measured in hours, not minutes. A second significant benefit is the continued availability of the paint colors in the future. Using standard artist colors like Burnt Sienna or Payne's Grey keeps us from being tied to a brand that might no longer be available (i.e. Floquil, Testors Model Master, PolyScale, etc.).

We will be using the oil paints to apply an oil paint dot-filter, and we will be using them to provide a weathered lettering/streaking effect. Using oil paints for weathering requires several materials. Some are in the average modeler's workshop, others might need to be picked up before getting started. These items include:

- Oil Paints – I choose to purchase mid-range quality paints from local hobby/craft supply stores.
 - Payne's Grey (a very dark grey with a dark blue tint)
 - Raw Umber (a dark brown with a hint of green tone)
 - Burnt Umber (a good dark brown, very warm in color)
 - Burnt Sienna (a great color for rust streaks)
 - Yellow Ochre (a dark mustard color)
 - White (Ivory, Titanium, Soft Mixing, your preference)

*Note: You do **not** need to limit yourself to **only** the colors I list above. Try other combinations depending on what you have available, or the color of the model. I've used Payne's Grey, Indian Red, Phthalo Blue, Red-Oxide, and Olive Green before. Experiment, you can always clean it off with makeup sponges and odorless mineral spirits*

- Odorless mineral spirits
- #2 round brush (for applying paint to the model)
- Flat brush – ¼" for HO-scale, ½" for O-scale (for removing excess paint from the model)
- Small dishes to hold your odorless mineral spirits for cleaning brushes.
- Makeup sponges (also for removing excess paint from the model, but very good for not leaving brush streaks on large flat surfaces too)
- Cardboard for a palette
- Clear flat varnish (i.e. Testors Dullcote, Krylon Matte Finish, Vallejo Acrylic Matt Varnish, etc.)

Dot-Filter (Oil Paint)

The oil paint dot-filter provides a transparent layer on top of your finished models that mimics a weathered/rain-streaked appearance. You apply four to five different oil-paint colors in literal dots spread randomly across the model. The paint is then partially removed using vertical brush strokes with a flat brush or make-up sponge dipped in clean odorless mineral spirits. This provides vertical streaking and blends the colors together.

Dot Filter Procedure

1. Fill two dishes with odorless mineral spirits: one to be your “clean” spirits and the other to be your “dirty” spirits.
2. Apply a dab of each of your paint colors to your cardboard palette.



3. Starting with your first color, apply dots of color to your model using the round brush.
4. Repeat step #3 for each color you have chosen. Cleaning your brush using the “dirty” spirits dish between each color. You will find the very dark colors (i.e. Payne’s Grey) and the very bright colors (i.e. Titanium White) are very strong and cover a great deal when you start removing the color in later steps. Use them in moderation. After you apply the dots for all of the colors, your model should look like this.



Apply the oil paint as small dots randomly all over the side of the model.

5. Now we use the flat brush and/or a make-up sponge to remove the color and generate the blended streaking effect provided by the dot-filter.
 - a. Dip the flat brush in your clean mineral spirits.
 - b. Blot it on a paper towel to remove excess spirits.
 - c. Brush vertically down the model side (1 or 2 strokes).



Make vertical strokes with the brush, down the side of the model.

- d. Clean your brush in your “dirty” mineral spirits.
 - e. Blot it on a paper towel to remove excess spirits.
 - f. Repeat from step (a) ...Working your way down the length of the model.
- Removing paint with mineral spirits until you get the look you want. You will end up removing most of the paint that you applied in step #4.



Continue moving along the length of the model, working the brush from top to bottom.

- g. Use the make-up sponges to remove large unwanted pools of spirits/paint.



Remove excess spirits and paint with a make-up sponge.

6. Continue working the paint on the model as in step #5, clean your brush, and apply clean mineral spirits as needed. Stop when you are happy with the streaking and color effect. After the mineral spirits and paint dry you can apply more paint or move on to applying other weathering techniques.



Accurail B&O boxcar before oil-filter application



Accurail B&O boxcar after oil-filter application

Weathered Lettering/Streaking (Oil Paint)

This is very similar to the dot-filter, but you use only one color that you apply to the logo or lettering that you want to fade or streak. Pick a color that matches the coloring of the lettering or logo that you want to depict as streaking or fading. This is often a white paint color.

Weathered Lettering/Streaking Procedure

1. Fill two dishes with odorless mineral spirits. One to be your “clean” spirits and the other to be your “dirty” spirits.
2. Apply a dab of white paint to your cardboard palette.
3. Apply small amounts of white paint to the bottom edge of the lettering/logo that you are working on. Now we use the flat brush and/or a make-up sponge to remove the color and generate the blended streaking beneath the logo/lettering.
 - a. Dip the flat brush in your clean mineral spirits
 - b. Blot it on a paper towel to remove excess spirits.
 - c. Brush vertically down the model side (1 or 2 strokes)
 - d. Clean your brush in your “dirty” mineral spirits
 - e. Blot it on a paper towel to remove excess spirits.
 - f. Repeat...along the length of the logo/lettering. Removing paint with mineral spirits until you get the look you want.
 - g. Use the make-up sponges to remove large unwanted pools of spirits and paint
4. Continue working the paint on the model as in step #4, clean your brush, and apply clean mineral spirits as needed. Stop when you are happy with the streaking and



fade effect. If you want to depict more paint fading/streaking, you can always add more paint and repeat the process.

5. The completed paint effect on the logo. After allowing the paint to dry, you will see the streaks of paint as you would see on a faded weathered logo



Weathering Enamels

Weathering enamels are paint products pre-formulated in thickness and color for weathering models. Similarly to the oil-paints they dry slowly, so you will have an extended working time, and you can usually remove undesired weathering from your models using odorless mineral spirits. Some you apply sparingly, only where you want the weathering effect, like with Tamiya panel liners, others you apply more generally like oil paints and remove the excess with a brush or sponge dipped in odorless mineral spirits.

Weathering Enamel materials include

- Enamel Weathering Paints – Manufacturers include:
 - AK Interactive - <https://ak-interactive.com/>
 - Ammo by Mig - <https://www.migjimenez.com/en/>
 - Tamiya Panel Liner - <https://www.tamiyausa.com/shop/enamel-detail/panel-line-accent-color/>
- Odorless mineral spirits and makeup sponges (to remove unwanted pigment)
- Brushes, usually round #2 or #4 will do
- Clear flat varnish. (i.e. Testors Dullcote, Krylon Matte Finish, Vallejo Acrylic Matt Varnish, etc.)

Weathering Enamels Procedure

Similar to the oil paint dot-filter, weathering enamels provide a transparent layer on top of your finished models that mimics a weathered/rain-streaked appearance. The paint is usually applied over the entire model surface. Similar to the dot-filter, the paint is then partially removed using vertical brush strokes with a flat brush or makeup sponge dipped in clean odorless mineral spirits. Because the weathering enamel is basically one color, and you are not blending the colors like in the dot-filter, you will not need to clean your brush as often while you are working your way down the model length.

1. Fill two dishes with odorless mineral spirits: one to be your “clean” spirits and the other to be your “dirty” spirits.
2. Apply your weathering enamel paint to the model surface that you are weathering.



3. Now we use the flat brush and/or a makeup sponge to remove the color and generate the blended streaking effect you desire.
 - a. Dip the flat brush in your clean mineral spirits.
 - b. Blot it on a paper towel to remove excess spirits



- c. Brush vertically down the model side (several strokes)
- d. Clean your brush in your “dirty” mineral spirits.
- e. Blot it on a paper towel to remove excess spirits.
- f. Repeat from step (a)
...Working your way down the length of the model.

- g. Use the makeup sponges to remove large unwanted pools of spirits and paint



Bowser WM hopper car before and after applying weathering enamels

Weathering Pigments

Paint is made of three primary components: thinner, binder, and pigment. The thinner is what allows paint to “flow.” Allowing it to flow out of a bottle or tube, into your brush, and onto the model. The thinner dries, allowing the binder to stick to the model, and this holds the pigment in place. The pigment is what gives paint its color. Pigments can be used for weathering because they work well to provide a transparent layer of color to our models, making them look rusty, dirty, dusty, sooty, etc.

Pigments for weathering are dry powders, and after you apply them to the model you may want to more permanently affix them to the model, usually by spraying a light layer of flat clear varnish. However, the products from Bragdon Enterprises and Doc O’Brien’s do not require a varnish coat. These powders include a pressure sensitive adhesive powder mixed in with the pigment powder. They will adhere without needing the clear coat varnish on top.

Please Note: Weathering pigments are usually the LAST weathering effect you apply to a model, and they also work well when used as a finishing touch to models that were previously weathered with enamels or oil paints.

Weathering Pigment Supplies

- Pigment Powders – They are made by several manufacturers. Those marked with an asterisk (“*”) mix an adhesive powder into their pigments.
 - AK Interactive - <https://ak-interactive.com/>
 - Ammo by Mig - <https://www.migjimenez.com/en/>
 - Vallejo - <https://acrylicosvallejo.com/en/category/hobby/pigment-fx-en/>
 - PanPastel - <https://goldenartistcolors.com/products/panpastel-artist-pastels>
 - Aim Weather Powders - <http://monroemodels.us/aim.weathering.htm>
 - Bragdon Enterprises * - <https://www.bragdonent.com/weather.htm>

- o Doc O'Brien's Weathering Powders * - <https://micromark.com/>
- Brushes, usually round or filbert ranging from #3 to large fluffy makeup brushes
- Odorless mineral spirits and makeup sponges (to remove unwanted pigment)
- Clear flat varnish. (i.e. Testors Dullcote, Krylon Matte Finish, Vallejo Acrylic Matt Varnish, etc.)

Weathering Pigments Procedure

1. Select one or two dry clean brushes. They must be completely dry, so that the pigment will not clump and stick to your brushes. I find a round #3 brush, and a make-up brush approximately ½" in diameter works best for me. Feel free to choose the size that works well for you and the size of the model you are weathering.
2. Place a clean working surface down on your workbench to aid in cleanup. I recommend placing a large piece of cardboard, poster board, or craft paper down, say 12" by 18". Pigment powder can be very messy, and having a disposable work surface makes clean-up easier.
3. Select your pigment colors:
 - a. light grey – for giving the overall model a faded or dusty look.
 - b. earth/dirt – for depicting mud spray, spillage from loose product, etc.
 - c. rust – for rust streaks, rusty spray from rails, or just to provide a rusty patina to untreated steel.
 - d. black/dark grey – great for soot buildup on top of steam-era cars, coal dust on hoppers, or just very dirty cars.
4. Use the smaller round brush to scoop a little pigment onto your work area.



Scoop pigment onto your work surface using a dry brush

5. Use either brush to move some pigment onto the model where you want to apply it. I usually apply pigments along the lower edges of the model. I get the best results by moving my brush in a small circular motion to spread out the pigments evenly.



Move your brush in small circles, applying pressure where you want the pigment to adhere.

6. Knock off any excess pigment when you are done, unless you want to depict heavy buildup of weathering. (i.e. caked-on mud, rust buildup, etc.) *Be careful with any excessive buildup, it can look very out-of-scale easily, especially in N scale or HO scale. However, O scale and the larger scales do benefit from textured buildup of pigments for weathering effects.*
7. Repeat steps #4 through #6 for each pigment color.
8. *(Optional)* Apply Clear Coat: If you are using pigment powders from Doc O'Brien's or Bragdon Enterprises, you are done. If you are using a product from another manufacturer, then you should consider applying a VERY light clear coat to affix the pigment. If you do not handle your models heavily, you can honestly skip this step. In the future, if you feel the powder treatment that you applied has worn off, then you can always apply more.
9. The model covered hopper BEFORE the weathering pigments:



Dot-filter weathered W&W Covered hopper before applying weathering pigments

10. The model covered hopper AFTER the weathering pigments:



W&W Covered hopper after applying weathering pigments

When you are done with all of your pigment weathering for the day, you don't have to throw out the excess pigment on your work surface. (You did put down the clean working surface in step #2, right?) You can collect the excess pigment on your working surface into a small container. This mixture can then be used in the future for other weathering projects. It works especially well on scenery projects like rock surfaces, ballast in locomotive servicing areas, or heavily weathered structures.

Conclusion

Oil paints, weathering enamels, and pigment powders are all useful mediums for weathering your model railroad rolling stock, locomotives, and structures. Experiment with these techniques on your models. With practice you should find that you appreciate the distinctive and more realistic way that it makes your model railroad look. Combining these techniques, applying oil paints and/or enamels, followed by weathering powders, can yield even more effective results. I invite you to experiment and share your model weathering work with others. A good place to share your model photographs is in the MER-NMRA Facebook group:

<https://www.facebook.com/groups/mernmra>.

Happy Model Railroading!



B&O Boxcar with dot-filter and
weathering pigments



Athearn W&W covered hopper with
dot-filter and pigments



Bowser WM coal hopper with weathering enamels and pigments