

Introduction to Model Railroad Weathering

NMRA Palmetto Division

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September 30th, 2023

Today's Agenda

- **Introductions**
- **Background**
- **Hands-on Practice**

Model Railroad Weathering

- **Early days in model railroading**
 - **Fascinated with trains and their movement**



Model Railroad Weathering

- **Early days in model railroading**
 - **Fascinated with trains and their movement**
 - **Desire to make them more believable**



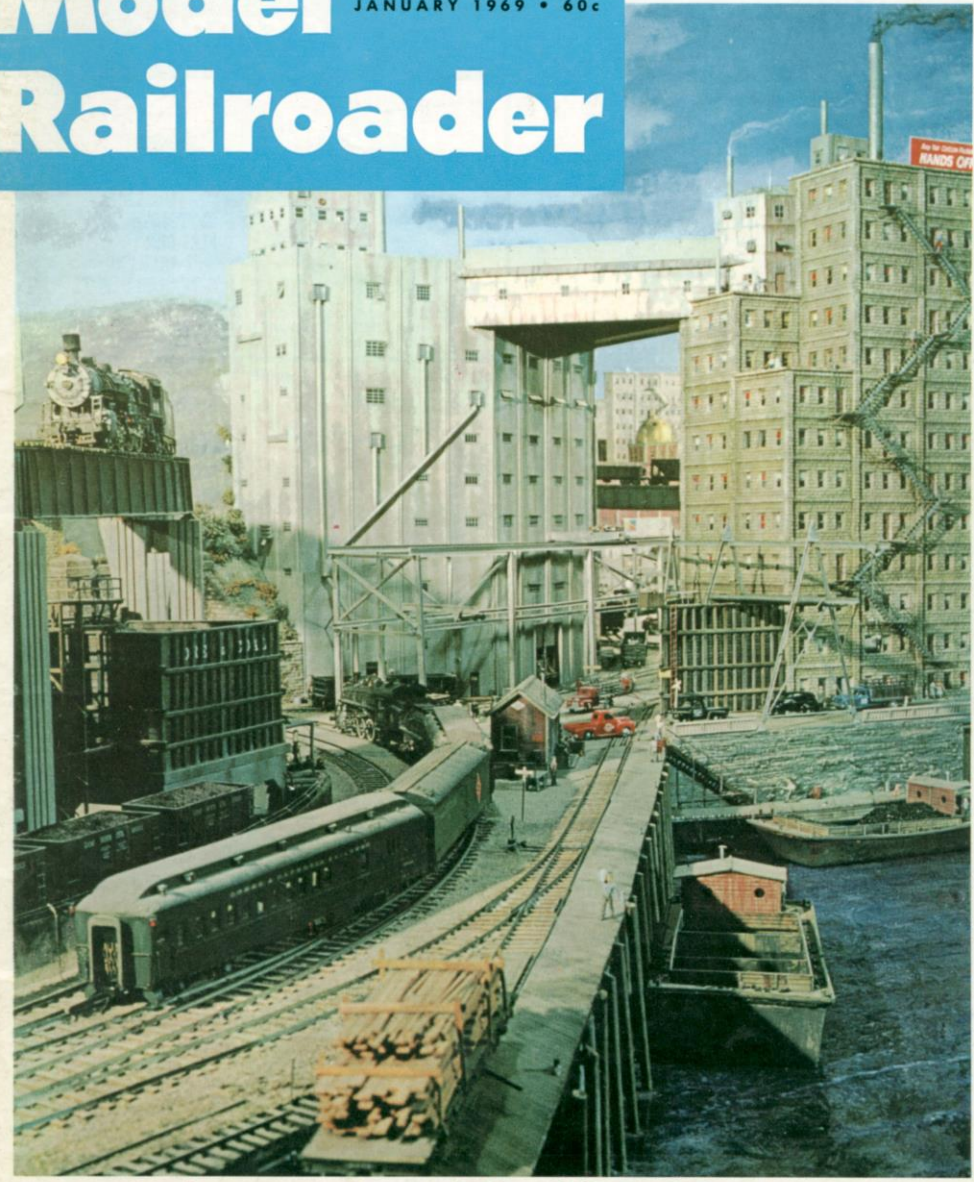
Model Railroad Weathering

- **Early days in model railroading**
 - **Fascinated with trains and their movement**
 - **Desire to make them more believable**
 - **Model Railroad magazine**
 - **John Allen**

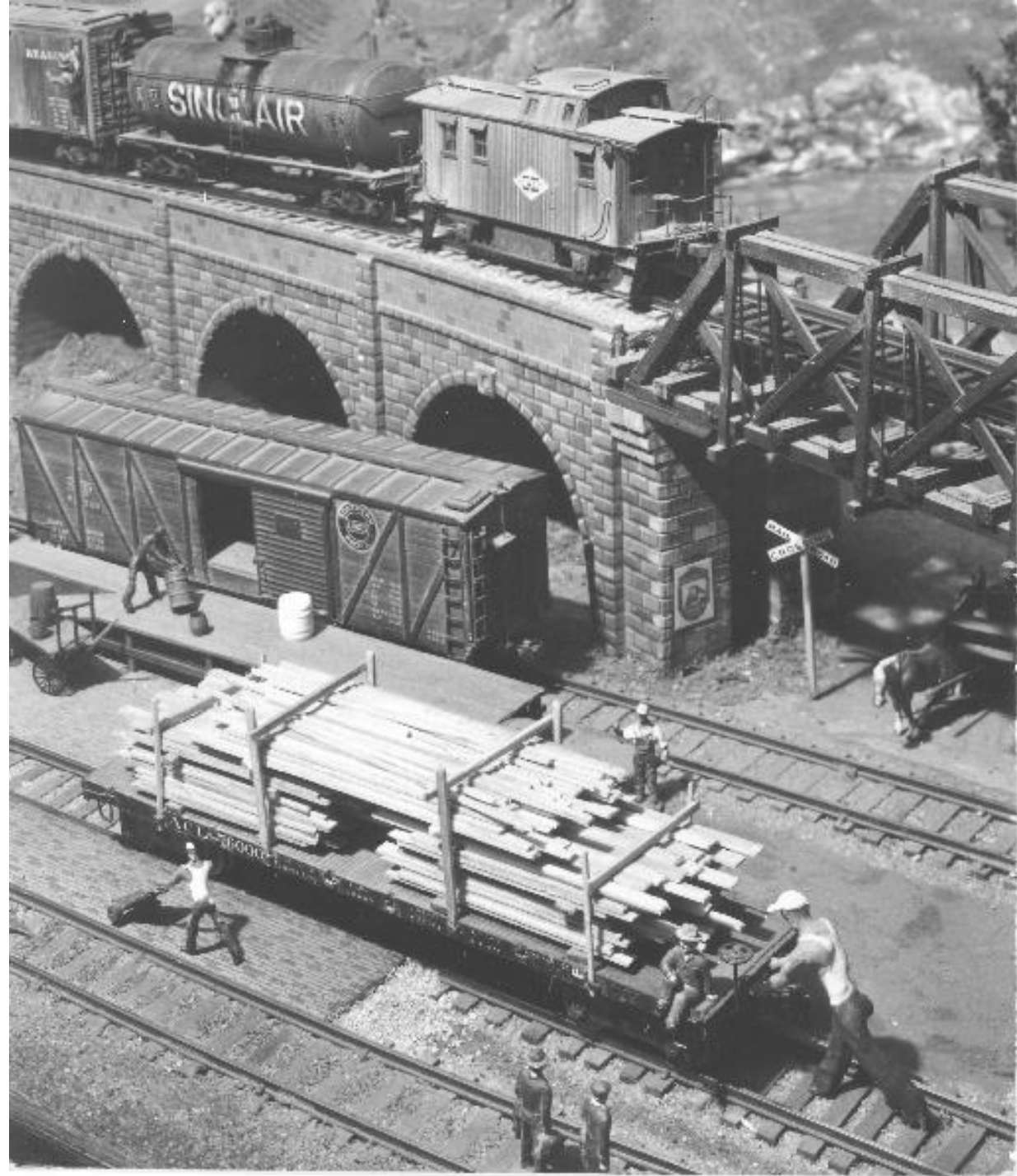
★ ★ ★ EXCLUSIVELY MODEL RAILROADING FOR 35 YEARS ★ ★ ★

Model Railroader

JANUARY 1969 • 60c



Local passenger runs over the Gorre & Daphetid. See page 46.







TCPX 70042

LD LMT 203800 LB 92450 KG
LT WT 59200 LB 26850 KG

FOR HAZARDOUS MATERIALS
SEE THE HAZARDOUS MATERIALS
TABLE IN THE HAZARDOUS MATERIALS
REGULATIONS (49 CFR 171-177)
800-457-2467

HAZ
MOLTEN SULFUR

UN 1204	Sulfur, molten	3	+	+	+
HAZARDOUS CLASSIFICATION					
CLASSIFICATION					
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HAZ

HO SCALE

WEATHERING



Model Railroad Weathering

- **What causes weathering?**

Ice	Rain	Sun
Air	Smoke	Oil
Grease	Product Spills	Dirt
Normal Wear and Tear	Accidental Damage	

Model Railroad Weathering

- **Initial methods of weathering**
 - **Flat paints such as Floquil.**
 - **Leather dyes or India inks**
 - **Diluted in 91 or 99% isopropyl (rubbing) or denatured alcohol**
 - **Steel wool dissolved in 5% vinegar solution**
 - **Chalks (limestone)**
 - **3+4=?**

Model Railroad Weathering

- **Basics of weathering**
 - **Always start with a flat finish!**

- **Microscopic view of a flat surface verses a gloss surface**

PAINT FINISHES

HIGH GLOSS

SEMI-GLOSS

SATIN

EGGSHELL

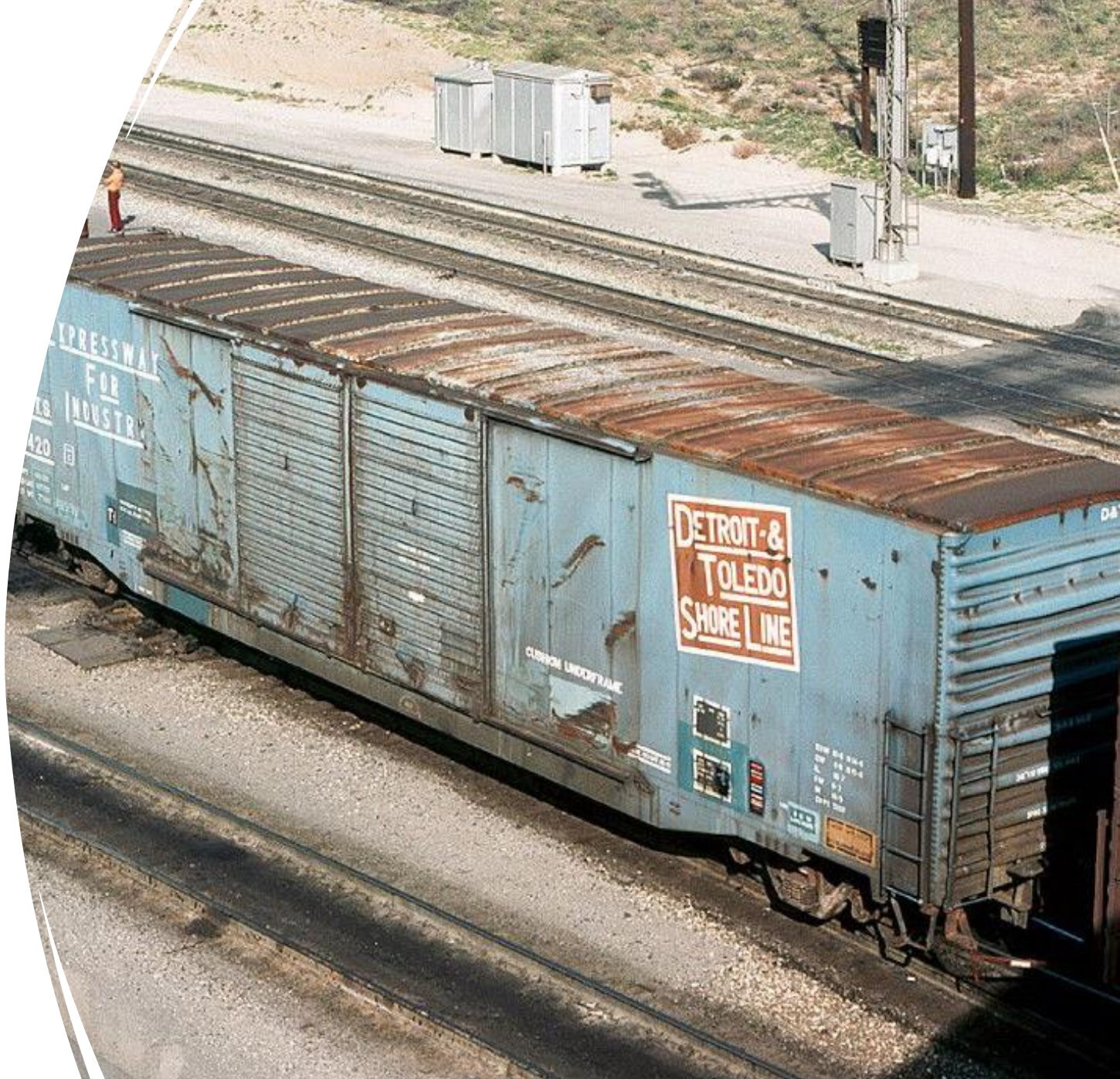
FLAT OR MATTE



\$6.98 on Amazon – 11 ounce can

Model Railroad Weathering

- Basics of weathering
 - Always start with a flat finish!
- Use a photo of the effect you are trying to create.

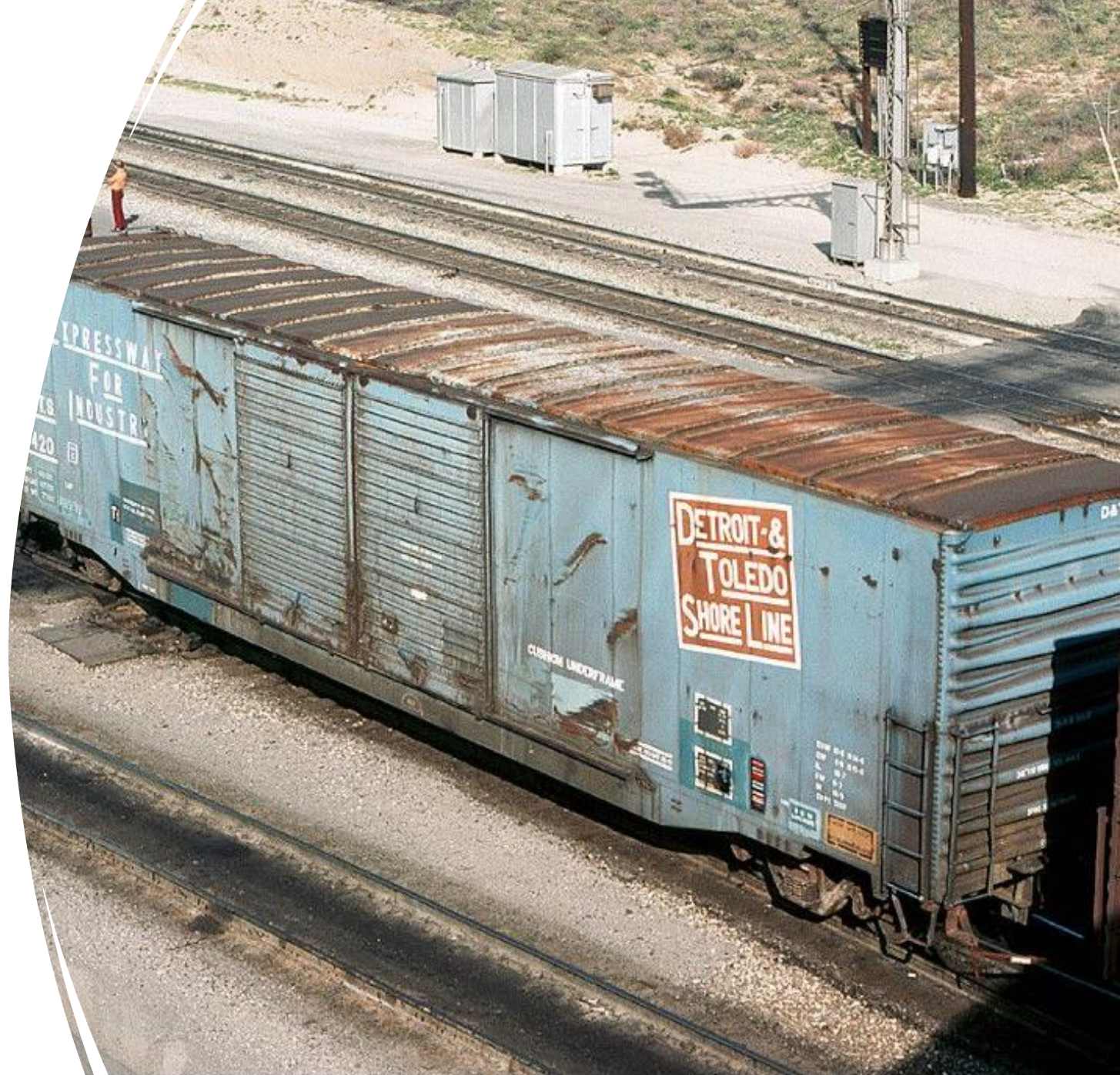


Model Railroad Weathering

- Weathering powders
 - Made of a pigment with a binder.
 - A **pigment** is a colored substance that is completely or nearly [insoluble](#) in water. In contrast, [dyes](#) are typically soluble, at least at some stage in their use. Generally dyes are often [organic compounds](#) whereas pigments are often [inorganic compounds](#).
 - Bragdon weathering powders
 - Pigments are flat plate particles with a pressure sensitive adhesive coating.
 - Require pressure when applied to activate the adhesive.
 - Best done with a short bristle brush.
 - Pastels are typically made with an oil binder.

Model Railroad Weathering

- Basics of weathering
 - Dirt, grime, etc., collects on protrusions and not as much on flat surfaces.
 - Ribs, handrails, and rivets.
- On lighter colored surfaces use dark colors.
- On dark surfaces, use light colors.





7562

CRDX
21012

LD LMT 234200
LT WT 51800

PLATE
C



WARNING
DO NOT SMOKING
OR USE OPEN FLAMES
NEAR THIS EQUIPMENT



EW 104 H 93
EW 84 H 15-0
CU FT 9981

CSXT
24287

2
LD LMT
LT WT

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52 67 01

CAPT 154 000 34
EQ LMT 154 000
LT WT 88 000 103
1/24

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THE SOUTH



Model Railroad Weathering

- **Weathering powders**

- **Short bristled brushes work best.**

- **"Scrubber" brushes.**

- **Q-tips and sponges can be used to remove excess powders on flat surfaces.**

Weathering with Washes

- **What is a wash? Getting started.**
- **Types of wash.**
- **Using a wash for weathering.**

What is a wash? Getting Started.

- **A wash is pigment in a (very) thin liquid.**
- **Can be applied all-over or in specific locations.**
- **Review prototype images.**
- **Light, not heavy applications. Take your time.**
- **Capillary action spreads the wash in molded joints, grooves, louvers, hinges, fittings, brake wheels, ladders, steps, wood grain, etc.**

Types of Washes

- **India ink in alcohol or water.**
 - **3-4 Drops per 15 milliliters. ~6-8 Drops per ounce.**
- **Use denatured or 90% isopropyl rubbing alcohol.**
- **Water-based paint in water.**
 - **Non-scientific paint brush or stirring stick in ~ 20 milliliters.**

Types of Washes (cont.)

- **Enamel or artist oil paint (tube) in mineral spirits or turpentine.**
- **Non-scientific method to make the wash.**
 - **Brush cleaning method.**
 - **Experimental trial and test.**

Using a Wash for Weathering

- **Know your base coat of paint!**
- **Alcohol wash over Testors Dulcote will turn the area white.**

Using a Wash for Weathering (cont.)

- **Alcohol wash can be used over enamel, lacquer, or acrylic paint.**
- **A water wash can be used over Dullcote and many flat finishes. Not too good over enamel paint.**
- **Use a turpentine or mineral spirits wash with artist oil paints over most finishes.**

Using a Wash for Weathering (cont.)

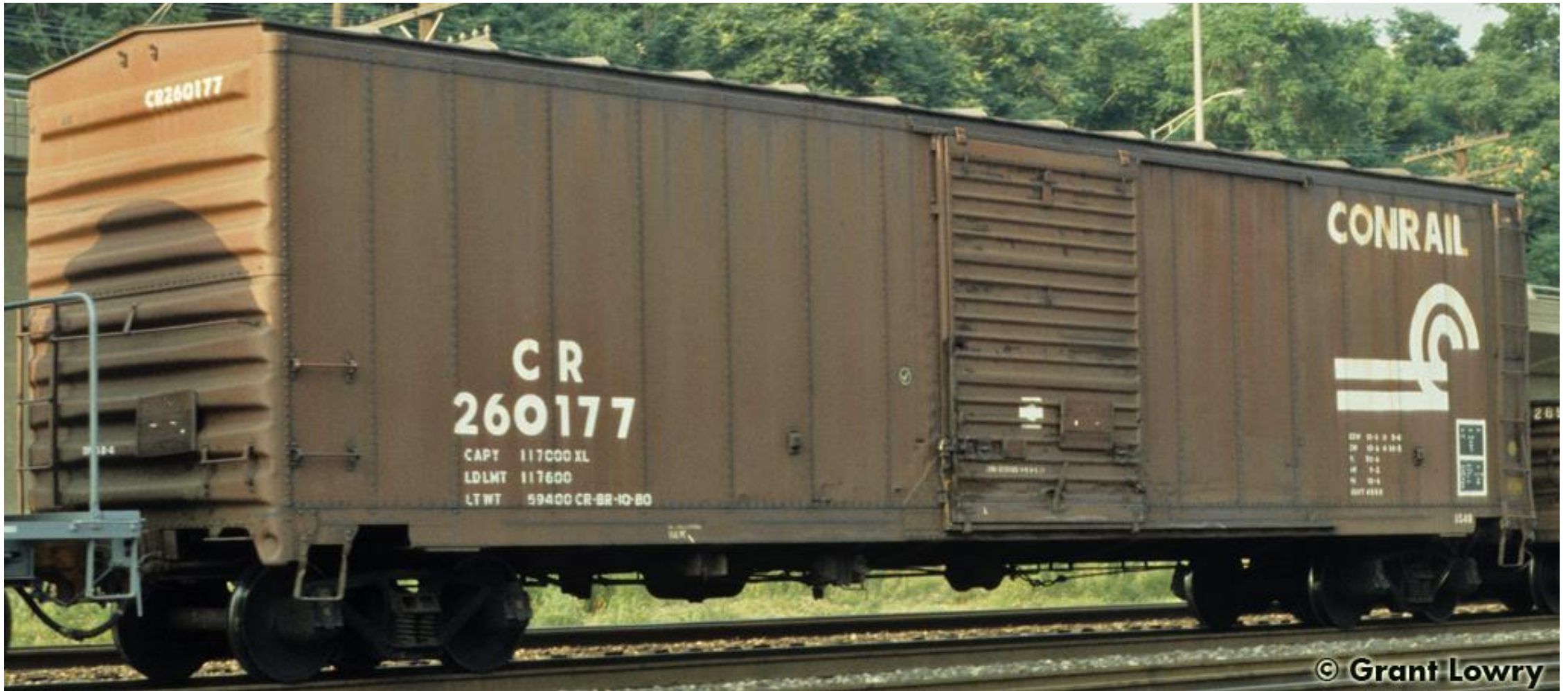
- **Start with a clean surface.**
- **Wear gloves if you can.**
- **Protect your work area with towels, drop cloth.**
- **Gravity can help or hurt you.**
 - **A wash is very thin so it will run downward very quickly!**
- **Use a soft brush to absorb excess liquid.**

Useful Websites

- **Conrail Historical Society** - <https://www.thecrhs.org>
- **NMRA Website** - <https://www.nmra.org/beginners-guide-part-10-weathering>
- **Hawkins Rails Shortlines** - <https://hawkinsrails.net/shortlines.html>
- **Model Railroad Hobbyist** - <https://model-railroad-hobbyist.com>
- **The Weathering Shop** - <https://www.theweatheringshop.com>

Hands-on Practice

- **Look at the appearance of the following features in the photos on the next five slides:**
- **Roof ribs and panels**
- **Ladders and stirrup steps**
- **Rivet lines**
- **Door hinges and hardware**
- **Brake mechanism and shaft**



Ex NYC Class 854B. Photo credit CRHS.ORG



PRR Class X53. Photo credit CRHS.ORG



WP 40' PS-1. Photo credit WPRM



Ex NYC Class 855B. Photo credit CRHS.ORG



WP 40' Single Door. Photo credit WPRM