

Education Program Basic Skills Series



Module Nine

Weathering

The following pages introduce the essential elements of weathering model railway equipment

- Why weather locos, rolling stock and structures
- Weathering effects
- Simple weathering techniques and their result

Why Weather



The attached photos show real trains regardless of prototype get



grubby. A combination of; engine exhaust wafting down on the train, dust thrown up from the road bed, dust from open wagon loads and windblown dust continuously envelopes prototype rolling stock. Add to this

some rust, peeling paint and rain to blend it all together, produces the grimy locomotives and freight cars we see on today's trains. The attached photos give an idea how scruffy the real things get in service.

The rolling stock isn't the only thing to get grubby. Structures along the line cop a mixture of locomotive exhaust, dust from open wagon loads and road bed dust stirred up by passing trains. The underside of over head bridges are caked with locomotive exhaust. Station roof sheeting is covered in exhaust soot.

The model in the hobby shop show case is clean and shiny. Place that model on your layout and the clean shiny finish looks out of place. Very few things in the real world look shiny at a distance. Weathering your model makes the difference. It makes that mass produced ready to run model yours, not Athearn's or Bachmann's.

Weathering accentuates the appearance of your rolling stock. The HO scale UP gas turbine looked awesome on the layout as delivered, except as shown in the upper photo it was clean. A few washes of black highlighted the details on the locomotive roof and the top of the oil tender. Thin washes of black streaked the locomotive and oil tender sides. The sides under the roof overhangs were treated with washes of black to highlight the details along the side walkways. Washes of road bed dust on the trucks and under frame completed the effect. As the lower photo shows UP 65 now looks like it works for a living.



Weathering effects

No two prototype vehicles look exactly alike. Differing age, time since the last overhaul and type of service means members of the same class of vehicle all appear slightly different. You can reproduce this on your model railway by the way you weather your models. The first step is to determine what sort of dirt your trains ought to be covered in. The following provides examples of the gunge that accumulates on prototype rolling stock.

Steam locomotives



The ash from coal smoke and heavy fuel oils varies from light to dark grey. This coats the upper surfaces of the locomotive. The treated boiler feed water stains the locomotive around the safety valves, whistle, steam generator and blow down valves.



Dust from the road bed covered the running gear and under frames. These effects are illustrated by the photos of BR 92137 and ATSF 5034

Diesel locomotives

Diesel engine exhaust is black. This coats the upper surfaces of the locomotive and is washed over the sides of the locomotive by rain. Steam boiler equipped locomotives are stained by treated boiler feed water around the safety valves. Dust from the road bed covers the running gear and under frames. The photo of BR 40058 illustrates these effects.



Coaches and covered freight cars

The roof of coaches and covered freight cars are liberally coated with locomotive exhaust. This coating is washed over the sides of the vehicle by the rain. The underframes and bogies are coated with dust from the road bed. This is shown on the photo of the BR Restaurant car



Open topped freight cars

Open topped freight cars loaded or empty are coated with dust from the products they haul like the

Portman mining iron ore car pictured. Typical open topped freight car loads and the dust they cause are

- Coal hoppers have a dusting of dark brown to black
- Iron ore cars are coated with dust ranging from yellow through red to brown to a purplish black
- Copper concentrate cars are tinged with greenish dust
- Zinc concentrate cars are tinged with brown dust
- Lead concentrate cars are tinged with black dust
- Bauxite cars are stained red to reddish brown
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Road bed dust

The colour of the dust coating the under frames and bogies of rolling stock depends on the ballast the track is laid in.

- Basalt ballast dust is grey when first laid and gradually weathers to a reddish brown
- Limestone and granite ballast dust is light grey
- Copper slag ballast dust is a brownish black

The photo shows the colour of granite ballast used around Perth.



Simple weathering techniques and their results

Many experienced modellers weather models with a combination of chalks and air brushed lacquers . The technique described below does not require the equipment needed for air brushing and is simple to master. These techniques will be addressed in future advanced modelling modules.

Weathering with water colours

Tube water colours provide an inexpensive medium to experiment with weathering techniques. Water colour weathering has the added advantage you can wash it off if you don't like the effect.

The trick is softening the water used to dilute the water colours with detergent. The softened water allows the washes of water colour to flow over painted or plastic models.

All you need as shown in the photo are a set of discount store tube water colours, a couple of dishes for water, detergent , a pallet, a couple of soft brushes and a shallow dish (pizza tray)



Select a box of water colours with the earth colours, yellow ochre, raw sienna , raw umber, burnt sienna, burnt umber plus black and white. Weathering models uses very small quantities of paint. A box of water colours used for weathering will last a long time.

You place your model in the pizza tray, mix the colours you need based on the data on the previous page, apply the dirt to your model until you are satisfied with the result and leave to dry. The pizza tray allows you to move your model without touching it as you apply the water colour washes.

The photo above shows out of the box the model of EL 3610 looks incomplete. The clean model does not show off the detail especially on the body sides. A photo of the real EL 3610 off the internet showing what the real thing looked like provided a guide to weathering the model.



A few washes of black and brown water colour changed the appearance of the model and highlighted the detail on the model.