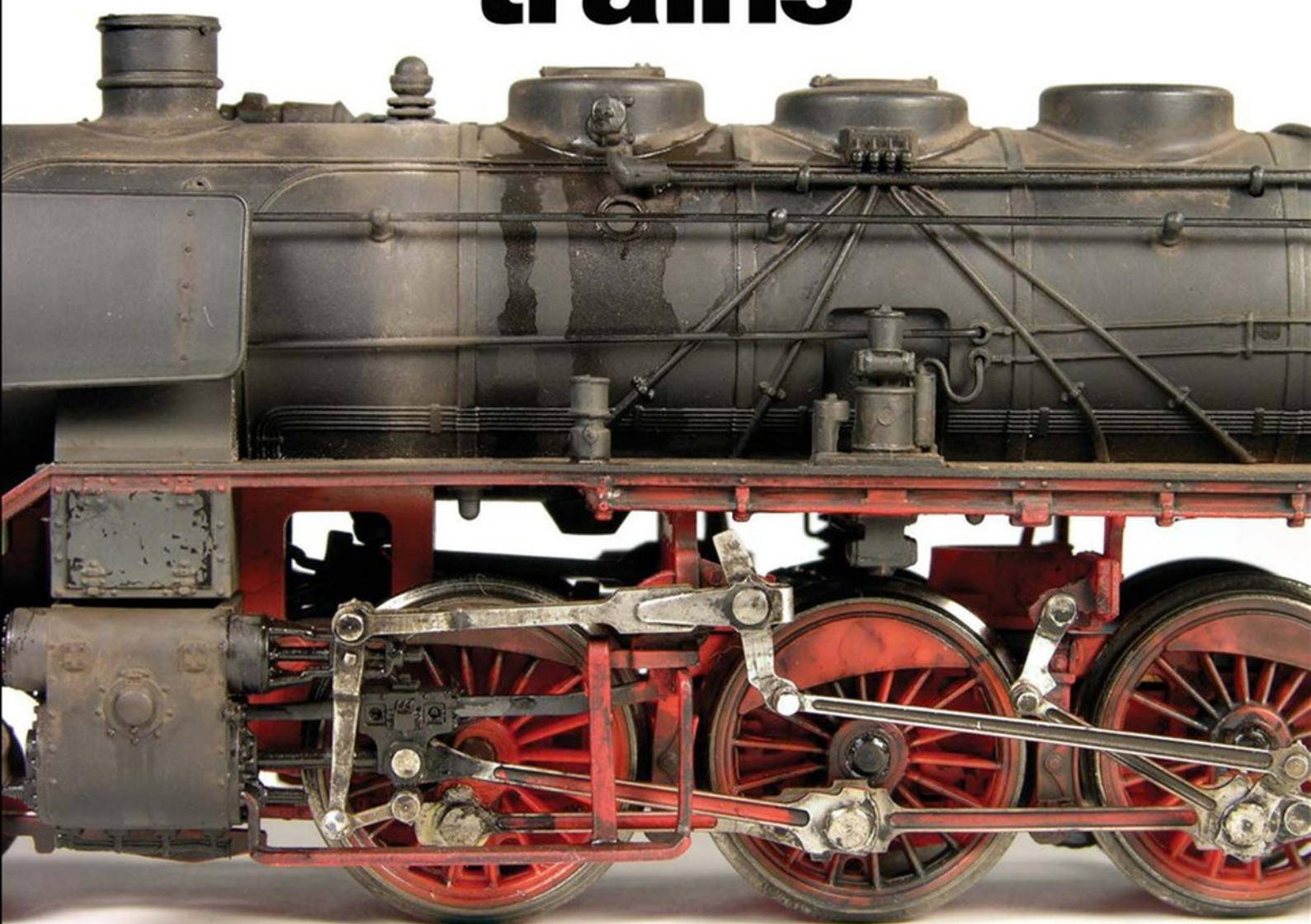




THE WEATHERING SPECIAL

trains



THE WEATHERING SPECIAL trains

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PROLOGUE

The railroad world is surrounded by a romantic aura that stirs up our imagination with images of travel and adventure, mystery, romance, passionate reunions and painful farewells.

Railway models unite the passion for models and that romantic feeling conjured up in our minds by the noise of train engines, steam whistles, the rattling of tracks, the smoke of the chimneys and even the sound metallic sound of squealing brakes.

Thanks to the excellent variety of railway miniatures available today, we can acquire practically any railroad car or locomotive model that we like complete with great details and pre-painted livery. For most railway modelers, this is more than enough at first. When we are taking our first steps into the hobby we just want to put the model on the tracks and begin to run it as soon as possible. But as time passes, we cannot avoid the realization that the toy-like appearance these miniatures have straight out of the box is not enough. Although these models do have very nice molded details, they do not seem real. What if we could make them authentically look like real trains in miniature? What if we could reflect in scale, the passage of time and the experiences these machines have gone through? What if we could give them life? You can do it, trust me.

With the help of some of the best modelers in the world, we are going to show you how to transform these toy-like models –as they came out of the box– into amazingly real-looking miniatures using different painting and weathering techniques and products specifically designed to easily represent realistic effects. All these simple techniques are clearly explained and illustrated with step-by-step instructions accompanied by high-quality photographs, which will allow you to depict your railway models with the specific amount of wear and tear you want.

If you are avid railroad modeling aficionado and already have a nice layout with tracks, stations, and landscape in place, this book will teach you how to paint and weather the locomotives and rolling stock to the highest standard, and even create small scenes within the layout to bring the viewer's attention to certain parts of the scenery such as track sidings, structures, and other unique features in an original and striking manner.

But it is not a pre-requisite to have a full-fledged setup to enjoy these small marvels. Stand-alone railway models can be amazing works of art all by themselves when packed with eye-catching effects to proudly dress up your display cabinets and expand your collection.

Of course railway models are an excellent foundation from which we can create beautiful static small scenes or dioramas, bursting with realistic and attractive details as you will see in these pages.

Join us on this wonderful run down the rails that will lead us from toy to truly realistic ground work, locomotive, and rolling stock with all the bells and whistles. You are sure to be both inspired and informed for your next project.



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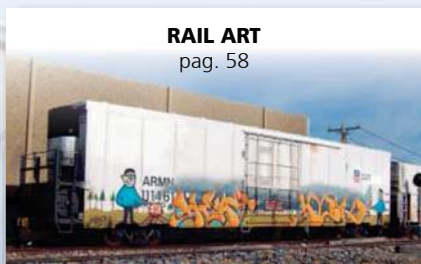
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Tank Zagkk Agip



Graziano Ghetti

Railway stock that carries lubricants, fuels, and gases of all kinds have always been the favorite subjects of the model-makers who love trains. Each of tank cars is unique and very impressive, especially when observing a moving convoy as they undergo a progressive deterioration due to weather conditions.

Looking at reference photographs, you can see long rows of rail tank cars with different levels of aging. This allows weathering lovers to find many ideas to reproduce the multitude of effects in scale.

The subjects we are working with, some of which are very detailed, come out of the box new as if they have just left the factory. Of course, this look is unrealistic and obviously plastic in this state. The goal of this article is to help you with a few simple steps used to create realistic wear and a faded result.





1

The AGIP rail tank model before the weathering.



2

The first step is to achieve wear on the roof of the tank caused by weather conditions and continuous exposure to sunlight. With the airbrush, I apply the Streaking Rust Effect A.MIG-1204 randomly, trying to highlight the reinforcement lines.



3

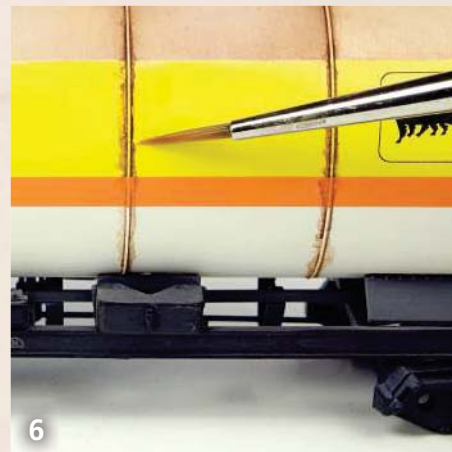
4

3

Using a flat and dry brush, I bring the color from the bottom up. This operation is to be carried out with the utmost delicacy and patience, otherwise it is likely to look unnaturally sharp.

4

With the same brush, I try to blur the effect by pushing the bristles onto the color. By tapping with the brush, it is also possible to create a degraded and irregular effect.



- 5 When finished with the grime application on the tank top, it is now time to highlight the details with selective washes. With the same Streaking Rust Effect A.MIG-1204 and the help of capillary action, the enamel flows along the panel lines.
- 6 Thanks to the glossy finish of the model, eliminating the excess is simple. A round brush moistened with thinner is enough to finish the job.
- 7 To visually join the upper areas to the center, I apply a non-diluted Streaking Grime for US Modern Vehicles A.MIG 1207 at 0.8 bar pressure. I airbrushed the enamel randomly trying to blend it into yellow base paint.



- 8 Without drying, I began to press the brush bristles moistened with thinner onto the enamel color layer to partially remove it and impart an uneven look.
- 9 To desaturate the two yellow and orange bands, use the dot technique with the oil colors. On this occasion, I chose 3 colors of the Oilbrusher line, Dark Mud A.MIG-3508, Buff A.MIG-3517 and Light Flesh A.MIG-3519.
- 10 With a large brush and enamel thinner, I try to blend the oil colors so that the dark tones remain on the lower part, while the lighter tones remain on the upper surfaces.





11 I work with small sections at a time for better control and accuracy.



12 The overall look of a cistern before oil color application...



13 ... and after the fading with Oiblusher colors. The color saturation is noticeably lower.



14

While waiting for the oils to dry, I began to paint the trucks. First I applied the Streaking Rust Effect A.MIG-1204 enamel, to simulate the rust on the suspension assembly.



15

Then I applied a Light Dust A.MIG-1401 to represent the dust and dirt deposits.



16

Next a Light Rust Wash A.MIG-1004 is used to paint some fresh rust spots, and Fresh Engine Oil A.MIG-1408 to paint oil spills and grease marks.



17

Some additional pin washes are applied with the same Light Dust enamel, heavily diluted with enamel thinner. Light gray contrasts well on the black trucks.



18 A detail not to be underestimated is rust on the chassis. Using Light Rust Wash, I applied the product with a brush in an irregular manner.

19 Then I blended it with a flat brush moistened with thinner, simulating classic rust streaks.

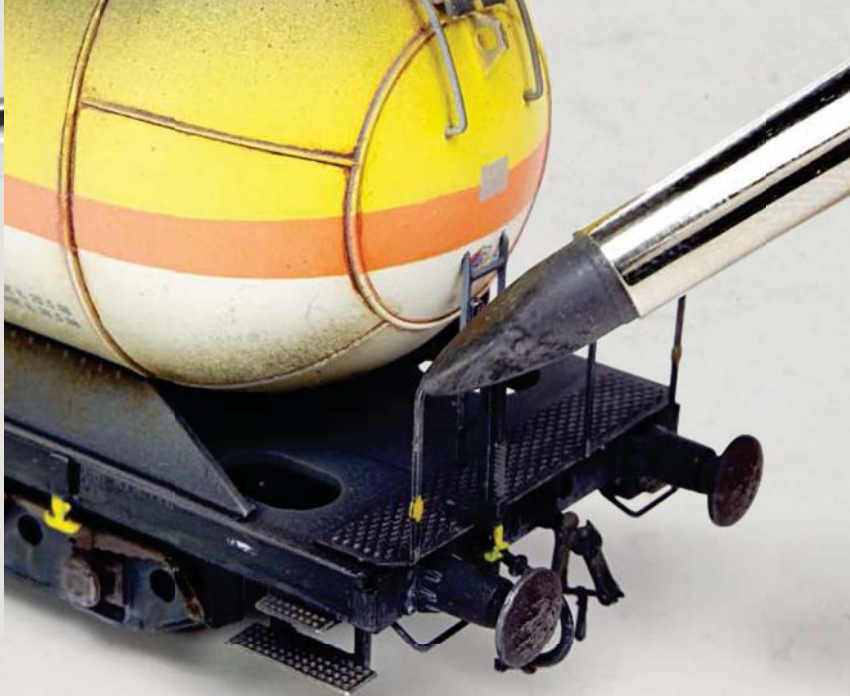
20 The need to reproduce dust on some parts of the frame enticed me to use the products of the Splashes line, I tried Loose Ground A.MIG-1752 and the result is very convincing.





21

With Sponge Technique and Chipping Color A.MIG-044, I applied chips to some of the protruding elements.



22

To finish, apply a Gun Metal Pigment A.MIG-3009 on all exposed parts on the chassis and on the passing points using a rubber brush.



Tank Zagkk Aglip



THE LAST STOP

(Where trains go to die)

Retired from the tracks, many old locomotives find themselves left to decay in forgotten graveyards of steel and rust. Once proud and powerful, the crippled Iron Horse is put out to pasture to await its fate with the cutting torch. This HO scene portrays such a graveyard, the Last Stop for locomotives.



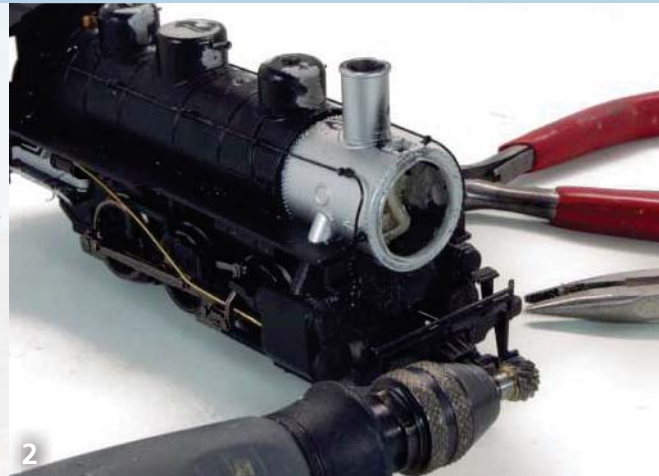
Rick Lawler





1

My project began with a trip to my local train store to purchase an HO scale locomotive, which I did. However, while talking with the store owner about my upcoming project he suggested that take a look at the Bachman scale train website where they offer replacement parts for those wishing to customize their trains. A few mouse clicks later and I was awash in all sorts of extra locomotive goodies that would be perfect for adding to my scene.



2

I then proceeded to ruin a perfectly good HO scale engine by cutting off the front boiler hatch and removing all of the visible "guts". The purpose, of course, for this Iron Horse sacrifice is to portray an engine that looks as though it's been abandoned, and scavenged for usable parts and scrap metal.



3

Next, I added a primer surface over which I will be able to add the requisite corrosion and rust typical of these forlorn beasts. I chose to use AMMO black and white colored primer – slightly thinned – to provide a bit of pre-shade contrast to the base.



4

I noticed in some of my references that many of these forgotten locomotives, rather than turn into a rusted heap, instead reveal their primer colors giving them a definite pinkish tone. Working toward this oxidized finish I begin by laying base tones using AMMO Primer colors, further tinted with red and white colors for added highlights.



5

Next, choosing darker tones from the same range colors I added shading and shadows to the lower areas of the locomotive, providing depth and volume to the shapes – especially the cylindrical boiler.



6

Feeling as though I have a good start on the base, I seal and protect the work done thus far by applying a layer of AMMO Satin Varnish.



- 7 Once the Satin layer is dry I follow by a spray of AMMO Chipping Fluid. This is the part where I'm realizing that I'm not really sure where I'm going with this, but I'm planning for any event!

I decide to enhance the pinkish appearance by adding a light, uneven layer of AMMO Crystal Red. My thought is that by using these transparent colors I can deepen the color without sacrificing the shading that I've already created with the base.



8



9

I continue with the idea of adding slight color variations by adding bluish colored shading, along with a little extra fading using a mix of red and white colors.



10

Now, I take water and brush to the Chipping Fluid to scrub off most of the recent layers of translucent colors. Even with most of the colors removed there remains just enough of the colors behind to provide a bit of pattern and texture to the surface.



11

The end result of all of these layers of paint and scrubbing is that now I have a "road map" of patterns, colors and textures that I can now work to enhance. To begin, I paint areas of white and light grey to portray oxidation stains.



12

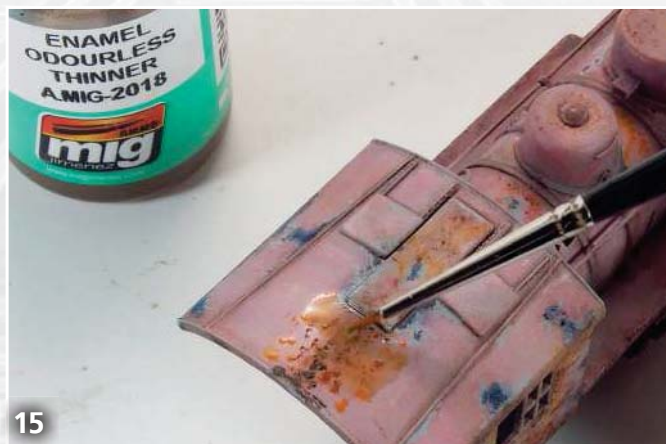
To this point I have been using acrylic colors exclusively, now I continue the same process of adding spots of color – lighter colored oxidation and light rust colors – using artist's oils. The artist's oils are added, but not necessarily blended away, leaving another layer of uneven color patterns and textures.



13



14



15



16



17



18

13 Generally it's not a good idea to apply acrylic paints over-top of enamel or oil based paints, as the water based paints will tend to bead up and not adhere to the surfaces. However, if the surfaces are washed with clean water it will allow you to return to using acrylics. And so, after some cleaning with water I returned to using acrylic paints to further enhance the areas of corrosion and oxidation. This process of back and forth, adding oils, enamels and acrylics are somewhat typical of my workflow as I work toward the finish.

14 Returning to the oils, I prepare the surface by moistening with enamel thinner.

15 Small dots of rust colored oil paints are placed into the pool of thinner and allowed to dissolve and melt over the surface in areas that I wish to show rust deposits.

16 As I mentioned earlier, I am not one to be limited in my choice of products as I routinely combine artist's oils along with enamel products to create effects. In this case, the Tracks Wash color provides a nice, dark purple/brown color that adds depth to brighter colors.

17 The thinner consistencies of the PLW and Filters are nice as they allow for easy profiling of the surface features. Just a drop near an edge or corner and let the capillary action to flow the liquid around the details.

18 As these next few photos will show, it was at about this time that I began to feel that my experiment with a pink, oxidized finish wasn't going to fully capture my intent for a bone yard relic; I would need to regain some of the contrast and definition that seemed to be missing. My plan of action was to bring the rusted areas into sharper focus, and for this I again turned to the acrylic paints.



19

I expanded the remnants of the "black" as well – using dark grey in order to remain consistent with the overall faded and oxidized finish.



20

Finally, I flooded the surfaces with enamel thinner, and then deposited tiny specks of rust colored pigments onto the wet surfaces. These tiny particles dissolve in the thinner, and once dry, leave behind small high-lights of colors and textures.



21

It was about this time that I really began to think about making a scene, and decided that I would need to finish a few more items to go into the scene – not the least being another locomotive. So, once again, I found a suitable HO scale model to sacrifice. Although the basic processes are the same between the two trains, I also wanted each to have some individuality. Again, based on references, I apply a base rust color and stripes of white to the engine and then coat with Chipping Fluid.



22

The engine is airbrushed in an overall layer of acrylic white and allowed to dry. Then, the chipping fluid is activated using a stiff brush and water, scrubbing and chipping the white color and providing an interesting texture map.



23

Now, I apply rust colored enamel effects over the entire surface, transforming the distressed white into an oxidized, rusted appearance.



24

I continue by combining enamel Rust Effects with pigments, brushing the thick mixture onto certain areas of the locomotive. Once dry, the pigments provide a nice grainy texture to the surface.



25

Using reference photos as an example, areas of rust and pigments are removed using a brush dampened with thinner - revealing broad bands of the white and black base colors.



- 26 The base begins by laying sections of HO scale tracks onto a wooden base. The ground texture is applied (plaster and gravel) and then painted in earth toned acrylic paints and pigments.



28



27

With the base painted, I can begin adding grass and other ground elements to the scene; using AMMO Gravel and Sand Glue as the adhesive.



29

- 28 Miscellaneous salvage parts and rail yard clutter are made from scrap photo etch. The photo etch is painted in a similar manner as the locomotives – rusty base colors, chipping and finally the addition of washes and pigments.

- 29 The base takes shape, layer by layer. As each new element is added to the scene I will continue to add refinements – adding grass, painting rocks, or perhaps a light wash to bring out a certain detail. This process continues until I am satisfied and feel that the scene is finish – or – until the magazine deadline!





CONRAIL. EX-PENN CENTRAL. BOXCAR

H0 SCALE



Jeff Meyer

The quality of model railroad rolling stock has improved greatly over the past ten years. The amount of detailing and exquisite paint jobs on these ready to run models has reduced the need to build and paint models from kits. In this article we will show a few simple techniques for fading the factory paint and adding rust. Using nothing more than some AMMO Washes and a few oil paints we can transform a mass produced 1:87 model into a unique representation of the prototype.



The 1:87 Model right out of the box, made by Atlas Model Railroad Co. After some modifications and decals we will seal the entire car with Testors Dullcote to prepare it for the fading. Using Dullcote from an aerosol can will work just fine.



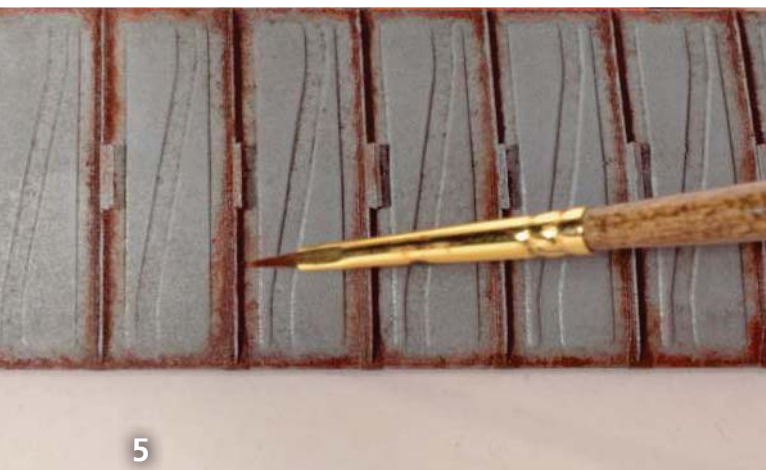
I learned this fading technique from my good friend. Begin by placing a drop of Zinc White oil paint onto a notecard. Then, working on three panels at a time use a small flat brush to cover the desired area.



3
Using a soft filbert brush, remove some of the paint and smooth out the finish. Wipe off any excess paint from the brush on a soft piece of cloth.



4
A fan brush is used to remove any remaining brush strokes. The white oil paint will need about 2-3 days to fully dry. Once dry, seal it again with Dullcote to prepare the model for following washes and filters.



5
Rust is applied to the roof by stippling on rust tones of oil paints. Lightly flood the edges of rust with Odorless Thinner to soften the edges and create some slight runoff.



6
Using a trimmed down brush with only two or three bristles, we can add small pits, scrapes, and streaks using oil paints. Make sure the paint goes on smooth and flat, we want to avoid any out of scale texture.



7
Burnt Umber oil paint is used to add darker areas of rust to the middle of the rust spots. The roof was finished by adding some light applications of Track Wash A.MIG-1002 and Polished Metal A.MIG-3021 powder to the larger areas of rust.



8
To recreate the tiny pits, scrapes, and streaks, we will need to trim down some already small brushes, typically leaving less than five bristles. AMMO of Mig Jimenez, Rust Streaks, Burnt Sienna and Transparent Orange Iron Oxide oil paints work great for streaking effects. For the darker pits and scrapes we will use Burnt Umber oil paint.





Working from a prototype picture as your guide is one of the best ways to insure that your weathering will look believable. The model will represent a car that is five to ten years older than the prototype picture and painted out for its new owner. If you look closely near bottom of the car you can see that the rust is in the same location as the picture.



Using a small brush with longer bristles, pick up a small amount of Burnt Sienna oil paint by slowly pulling the bristles over a drop of paint. Almost like putting paint on the edge of a razor blade. Slowly pull the brush down the model, the longer bristles will help keep the streaks straight.



A small flat brush dampened with White Spirit is used to soften the edges and straighten the streak if necessary. Streaking Rust Effects A.MIG-1204 can be used on top of the streaks and near the bottom of the streaks to simulate lighter run off.



We can apply horizontal scrapes in the same manner as the streaks, but this time we will use Burnt Umber to simulate older damage. Add tiny streaks from the scrapes and pits using either Burnt Sienna or Streaking Rust Effectss.



The forgotten workhorse



Graziano Ghetti

In 1970, the Italian State Railways replaced the locomotive D 343 with a new updated version, the D 345. The new model was produced by Fiat Ferroviaria in collaboration with Breda and SOFER. This version remained in production until 1979, when the last unit was delivered.

The D 345 can no longer receive the necessary revisions, and now the non-functioning locomotives are piled in train depots. As of 2016, some examples are still working but are used solely in the Trenitalia Cargo compartment.

Many railway modellers, most are lovers of weathering, choose this model because of the many reference photos available on the web depicting the locomotive in poor condition, very dirty, and often with graffiti and heavily worn paint. So it is a subject that lends itself well to this magazine, especially to show classic techniques such as washes, filters, and oils!





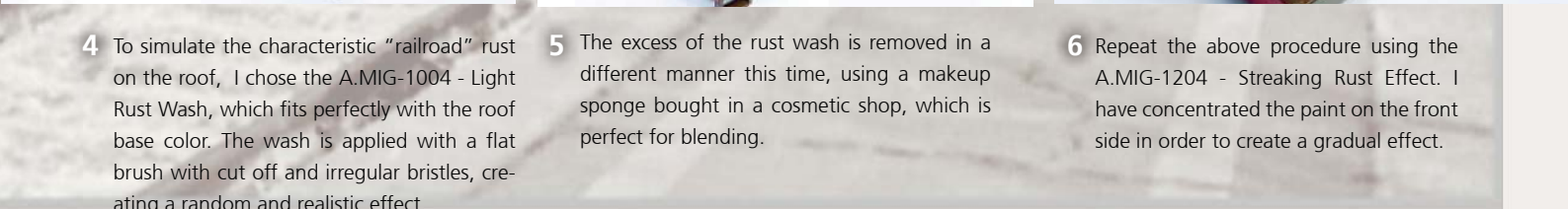
- 1 After disassembling the model, always check for any imperfections and make the necessary corrections before painting.



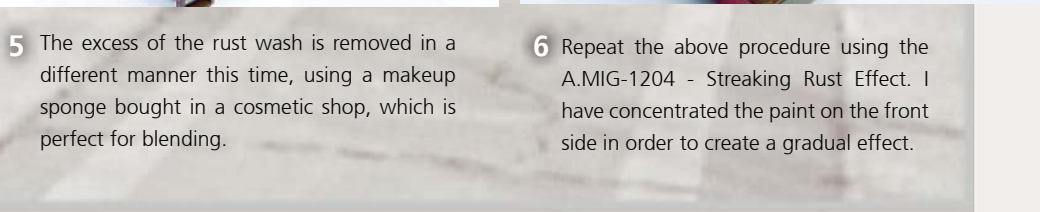
- 2 To emphasise all the raised and recessed details, a pin wash is applied first. I have found that A.MIG-1007 - US Modern Vehicles Wash has the correct tone for this job.



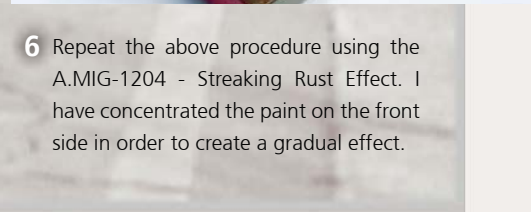
- 3 After a few minutes, the excess wash is removed with a brush moistened in Odourless thinner. Try to work with an almost dry brush, in order to avoid removing the effect.



- 4 To simulate the characteristic "railroad" rust on the roof, I chose the A.MIG-1004 - Light Rust Wash, which fits perfectly with the roof base color. The wash is applied with a flat brush with cut off and irregular bristles, creating a random and realistic effect.



- 5 The excess of the rust wash is removed in a different manner this time, using a makeup sponge bought in a cosmetic shop, which is perfect for blending.



- 6 Repeat the above procedure using the A.MIG-1204 - Streaking Rust Effect. I have concentrated the paint on the front side in order to create a gradual effect.

7

To blend the washes on the side of the locomotive, I have used a smaller sponge brush. The resulting effect is very accurate and realistic. Looking at the locomotive from a distance, the model's details are clearly visible and the subsequent weathering processes enhances the definition of details such as bolts and ventilation grids.



- 8 A.MIG 2010 - Scratches Effects was applied onto upper areas and left to dry. Then, a thin layer of highly diluted A.MIG-1208 - Rain-marks Effects was airbrushed to simulate the faded and worn paint. Be careful not to cover the ventilation grilles and windows!



- 9 Using a flat brush moistened with water, I started to remove the effect beginning with the lowest parts of the roof and blending the color downward. By using a chipping medium between the layers, we can create additional irregularities.



- 10 With burnt umber oil color, I have simulated the dirt streaks originating from the windows and vents. The paint is applied directly from the tube with a flat brush, using a downwards motion.
- 11 In order to obtain a satisfactory result, it is necessary to work with care, otherwise you can ruin the effect.

The locomotive, powered by diesel fuel, shows many leaks and spills on the lower part of the body where the fuel tanks are located. To recreate this effect, I have used A.MIG-1408 - Fresh Engine Oil. The key is to work with many layers and accumulate the effect in layers from top to bottom.

12





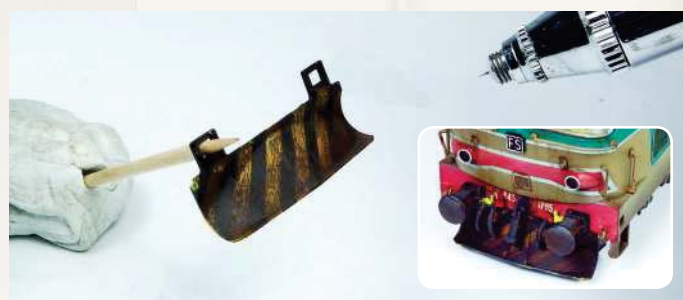
13 For the next step I made a slurry by mixing different pigments colors and enamel thinner.

14 The application is very simple and is much like a selective wash. After a few minutes of drying time, it can be reworked and corrected with a clean brush damp with odourless thinner to increase or decrease the effect.

15 Once completely dry, the effect is similar to a pigment deposit, and it is still easily worked for further corrections.



16 Towards the end, I emphasise all of the points where the scratches and paint chips are present by using A.MIG-1004 - Light Rust Wash. I prefer to perform this step after applying A.MIG-089 Matt Varnish, this effects the surface, helping the effect become very opaque, as in a reality.



17 I completed the weathering of the locomotive by further enhancing some of the details. They are very important for a subject so small, and while trying to reproduce what we see in the pictures is never easy, it is critical to a realistic finish. This is one of many details present on the BR 345. To simulate the wear and dirt on the surface of the blade, I have airbrushed a fine layer of the A.MIG-1007 - US Modern Vehicles Wash. This versatile product applied in this simple way allows us to obtain a very realistic effect.







DREAMING ABOUT TRAINS FREIGHT



Deák Róbert

Did you like to do trainspotting, counting the train-pulled wagons when you were a child? Yes, it was my passion too. It is not a secret that I love railroad subjects....huge steel cars running on the tracks or rather just left alone on an abandoned siding. Abandoned topics always offer a great

opportunity to apply weathering. Many different materials can be used to create weathering effects and amongst them the pigments are very versatile products, with a wide range of effects and various techniques used to apply them. Now let's see how I painted and weathered this railway freight wagon that I have chosen specifically for this pigment issue.



1 This wagon with Hungarian markings is produced by Tillig in scale 1/120, TT. The model has nice details especially in this small scale.

2 Before the painting process, I have made some improvements such as changing the original plastic floor of the cargo space to balsa wood. I also masked the markings with masking tape and AMMO Masking Putty (A.MIG-8012). You can let the masking putty sit for a long time (couple of days or more) if you use the masking putty in a thin layer.

THE NEXT



- 3 First, I applied some thin layers of Rust Surface Primer (A.MIG-2006). Although this primer can be used directly from the jar, I added a few drops of acrylic thinner (A.MIG-2000). The rust color gave me a good base for the rusty appearance and covers also the metal surfaces like the wheels of the wagon perfectly.



- 4 I will create the paint chipping by using the chipping fluid method. First, I need a rusty base. Usually I paint the rust tones with acrylic colors before the chipping fluid, but for this subject I have decided to use pigments. The first layer was applied with sponge. The sponge was dampened with enamel thinner then dipped in Track Rust pigment (A.MIG-3008) and the surface was covered partially. The pigment should be completely dry before the next step.



- 5 Now I added Black (A.MIG-3001) and Medium Rust (A.MIG-3005) pigments to make color variations of rust. These pigments were applied dry and by brush without any thinner. The dry pigments adhere well on the surface (the more matt the surface the more pigments adhere). Small amounts of pigments were used in small areas.



- 6 When I was satisfied with the rusty surface, I fixed the pigments with Pigment Fixer (A.MIG-3000) applied with an airbrush in several thin layers. After the pigment fixer dries, the pigments are firmly secured on the surface.
- 7 The roof received rust pigments too but here I added Light Rust pigment (A.MIG-3006) where I wanted to show fresh light rust in some spots. The methods used for the roof are the same as the previous steps.



- 8 When the pigment fixer dried completely, I airbrushed some thin layers of Heavy Chipping Fluid (A.MIG-2011).
- 9 I tried to achieve a characteristic color of the wagon body although there are many different red-brown tones applied to the real examples and references. This color was mixed from Red, Yellow, and Dark Tracks – dark brown acrylic colors (A.MIG-049, 048 and 035) and applied in thin layers.
- 10 The lower parts of the wagon received the same rusty pigment base, followed by the chipping fluid. Here the main color was achieved with grey (Rubber & Tires – A.MIG033) and Black (A.MIG-032) acrylic paints. First a thin layer of black was applied followed by several thin layers of grey.



After the covering acrylic color dried to the touch, the surface is dampened with water then rubbed gently with a stiff brush to make chipping.

11





12

This is how it looks after the chipping was complete on all of the surfaces. Reference photos helped me to make the chipping in a natural manner. I decided to add a different color to the doors in order to break up the base color of the body. Now it has an attractive appearance to continue with the weathering.

This wagon has very nice surface details which can be highlighted with pin wash. I applied Dark Brown Wash (A.MIG-1005) with a fine round brush around the details then let it dry for an hour.

13



14

Dark Wash (A.MIG-1008) was used on the surfaces painted with grey color.



15

On the wood floor I first used Brown Wash (A.MIG-1000) then in some places Slimy Grime Dark and Light (A.MIG-1410 and 1411) was applied locally to get a more interesting look.



Sometimes accidents happen during the goods transferring in or out of the wagons... And it makes modelers very happy to reproduce these effects. Here some whitewash spilled out. First White oil was applied from Oilbrusher A.MIG-3501 then...

16



...this white oil was blended with enamel thinner to achieve a realistic look. If this oil paint is blended to a thin layer it dries very fast, drying completely in a couple of hours. Although if the layer is thicker it takes a bit more time but it dries very fast in general when compared to other oil paints.

17



Some Light Dust (A.MIG-1401) was airbrushed, concentrating on the upper part of the body and on the roof.

18

19

Then a part of the light dust was removed with vertical strokes of a brush moistened with enamel thinner. I didn't want to remove the whole effect therefore the brush contained only a little thinner and I applied very gentle brush strokes on the surface.

20

It's time to add some oily dirt around the wheel area. First some Black pigment (A.MIG-3001) is applied then...



21

...Fresh Engine Oil (A.MIG-1408) was added over the black pigment. When it dries, it gives us a realistic oily grime.





22

The only remaining task is to add dust on the horizontal surfaces. Two different shades of dry brown pigments were randomly added (Europe Earth – A.MIG-3004 and Light Dust – A.MIG-3002).



23

Then the pigments were moistened with enamel thinner and were mixed a bit on the surface. Pigments turn dark when they get wet but they will regain the original color when they are completely dry.



24

When the pigments have dried, they can be removed easily since the enamel thinner fixes them lightly. A dry brush or sponge applicator can be used to remove most the excess of the pigments or the tools can be moistened with enamel thinner to remove the pigments completely from any part of the surface. A more realistic look can be gained if more dirty layers are added with pigments as well, as has been done with this example.



OIL TANK WEATHERING



John Murphy

In this step-by-step we will demonstrate the techniques used to recreate the fuel and oil spills down the sides of railway fuel and oil tank wagons along with the distinctive orange/brown grime that coats almost all freight wagons, carriages and locomotives on modern railways.



For this article we will be using a couple of Bachmann 00 gauge 45-ton TTA Tank Wagons. Although these wagons are beautifully detailed and painted they are just too clean to look real. Some of these model companies now offer locomotives and rolling stock, that are pre-weathered, but these don't look very realistic either, as they have simply been misted over with grainy brown paint using an airbrush! Let's now show you how to do it properly.



1 / 1a

For this guide we will be using two identical Bachmann wagons. To one of them we did add some graffiti decals from Uschi van der Rosten



2

The first step is to mix Humbrol Enamel Khaki 26 and Olive Drab 66 with enamel thinners.



3

This mix is sprayed onto the wheels, axles and lower framework.



4

Once the framework is painted, we can now add grime effects to the tank including the edges of the weld seams.



5

Using white spirit and an old brush used for dry-brushing, we remove the excess paint from the framework.



6

In this close-up we can see that the aim is to leave some of the grime colour around raised details, such as rivets and along recessed edges.



7

We can now start weathering the grime colour on the tank. We start by airbrushing white spirit onto the tank to soften the enamel grime paint.



8

Next we gently and repeatedly drag a piece of Scotchbrite along the sides of the tank. This is to simulate the distinctive scratches often seen on these wagons.



9

Here we can see the effect of the enamel grime now the excess has been removed from both wagons. Note the left-hand one has been wiped over with a cloth rather than Scotchbrite.



10

On the cleaner wagon, we now add softer tones of the orange/brown, this time using acrylics. Here we have used a mix of Lifecolor Israeli Sandgrey 1982 and Wood (warm light shade).



11

The paint is heavily thinned and concentrated along the top and in the form of streaks down over the sides.



12

A common feature on these wagons is that the wagon number and any warning or information labels are constantly wiped clean. We can do this with white spirit and a cotton bud Q-tip.





13

The grime weathering is now complete on both wagons.



14

The first step for adding the fuel/oil effect, is to airbrush on AMMO's Engine Oil, this was thinned with a small amount of cellulose thinners.



15

As can be seen here, the Engine Oil dries to a high gloss finish, which can be toned down with some satin enamel varnish.



16

On the second tank wagon we want to simulate thicker oil spills down the sides, so to do this, we airbrush a mix of the original AMMO Engine Oil mixed with Humbrol Satin Black Enamel. Again this mix was thinned with Cellulose thinners.

The finished wagons complete with some subtle chipping and rust staining. Some further oil stains were added around the axles to replicate lubricating grease.



17



Here is a classic example of the oil staining on the side of one of these oiltanks. Notice how clean the wheel hub covers are.



This wagon shows perfectly all the scratches in the grime along the sides of the tank.



In this example we can see how all the information and warning labels have been kept clean and free from grime.



More scratches along the sides. The spilt oil on this wagon has run down the sides in thin lines instead of large stains.

MUDDY

INDUSTRIAL

LOCOMOTIVE



Marc Reusser



I have a real affinity for industrial models, they provide for a vast assortment subject matter, colors and weathering effects; and there is a seemingly endless amount of reference material on-line, and in the real world.

This issue's subject gave me the opportunity to try a different approach to mud, while doing so on a subject I have long wanted to play around with; weathering a small industrial locomotive of the type that would be found at a clay/brick-works operation. The mud process used here involves the use of water soluble Guache artists colors. These colors are dead matte (perfect for the mud finish I needed), and can be re-activated (even weeks/months later) simply by the use of water. The idea behind using these was that they would allow the opportunity to endlessly manipulate the finish effects...without staining or discoloring the base colors or clear coat....and if I didn't like the look, could simply be completely washed off with water. Because the paint is so easily reactivated, care must be taken during layering and subsequent steps, not to damage previous effects/steps

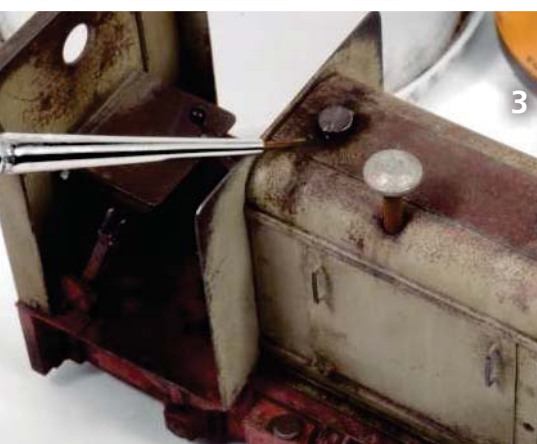


1 After the basic painting, chipping, filters, pin-washes and shading have been applied, the model was sealed with DullCoat then some very quick, and general, streaking effects were applied using a mix of Oilbrusher Buff A.MIG-35178 y Light Dust A.MIG-1401.

Using a mix of oil based products areas of shading are applied. Most of these will be hidden to some extent by later effects; but as in the real world, a layered effect is created.



2



3 A light application of fuel stains to begin the process of layered grime.

To build up areas where dust collects, a water thinned mix of Guache artists paints are applied with an airbrush. Working in thin dry layers is best, as the water based paint has a tendency to bead if applied too wet.



4



5 Using small pieces of cosmetic sponge, and a Q-tip, specific areas of dust can be manipulated or removed to create clean areas from crew movement.

Using the same colors as before, a variety of sponges and brushes are used to build-up and layer heavier areas of caked on dust. A fine brush can be used to flow the thinned color onto recesses, panel lines, and corners.



6



7 A mix of pigments and very finely sifted dirt were brushed into the corners and areas of the cab where dirt would collect. Onto this were added varied sizes of mud/dirt clods created with a mix of plaster, fine dirt, and Guache coloring. Placement everything was attached with AMMO Pigment Fixer at the edges, and AMMO Gravel & Sand Fixer for the heavier areas.

Next step is applying the thin layer of splashed and accumulated silt. This is applied in the same manner as the heavier dust as done before, but note that the color is darker. A stiff brush is used to create some random splatter areas.



8

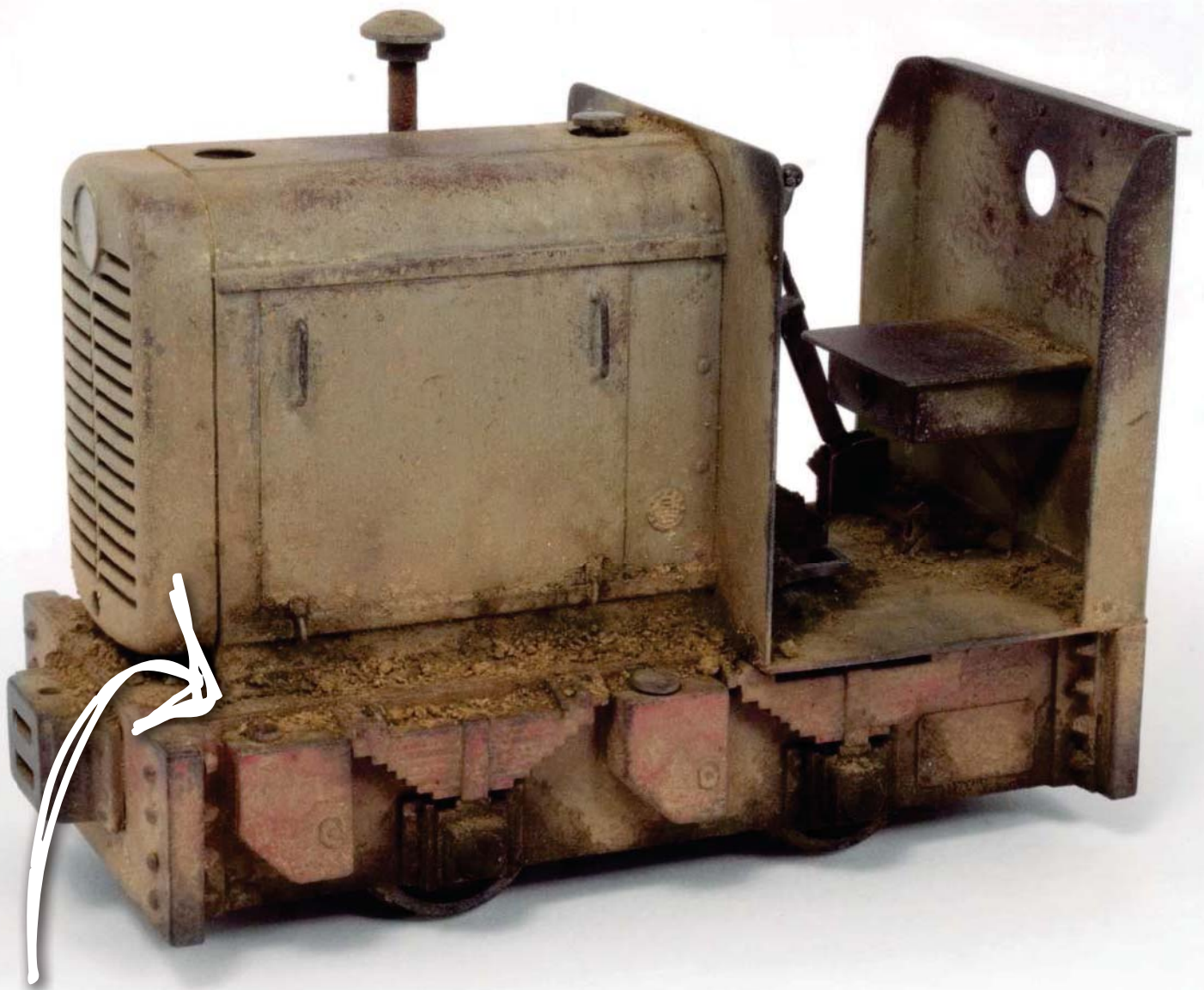


9 We can add texture using pieces of sponge, and various sized old brushes. A larger clean sponge and Filbert brush can be used to feather and manipulate, while a stiff brush can be used to create splatter effects.

When satisfied with the previous steps, a lightly dampened brush and cosmetic sponge, can be used to wipe away any dust and dirt, to create the areas where it would wear away.



10



At this point, using the same materials and technique described in step/image 6, we add the heavier build up of dirt, mud and mud clumps at various areas around the locomotive, where it collects.

The finished look after the addition of some oil and grease staining common to older and heavily used models of these type of locomotives.



WR360 LOCOMOTIVE

CAMO-KRIEGSLOKOMOTIVE



Nicolas Vasseur

The WR 360 C 12 was a railroad locomotive engine used by the German Army during the Second World War. Essentially used on the European front, this locomotive made the connection from one military camp to another possible. Some reference photos show locomotives of the same type used in North Africa as well. One can find a two-tone camouflage applied to some examples. Unfortunately, no official text lists the color code used. So, I took inspiration from photos to create a locomotive with a camouflage different from what can be seen on the armored wagons of the German Army, comprised namely of Dunkelgelb, Olivgrün and Rotbraun.

Being that the basic color of the locomotive is black, I preferred to start from a very dark gray simply for aesthetic purposes. Having no official information on the color of camouflage patterns, I chose to use brown, as it can be found on some German vehicles on the North African front.



1

We start by applying a layer of gray primer on the entire model to break the surface tension of the plastic, enabling excellent adhesion of the paint to follow.



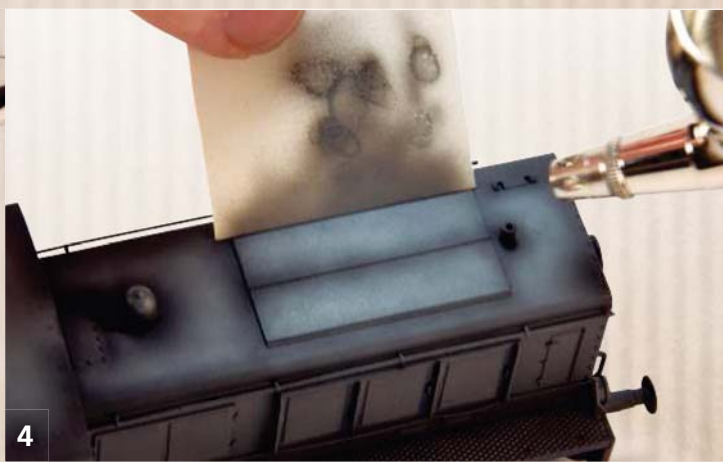
2

The base color is then sprayed with an airbrush over the entire piece. This is a very dark gray mixture of 90% matt black A.MIG-046 and 10% gray stone A.MIG-075.



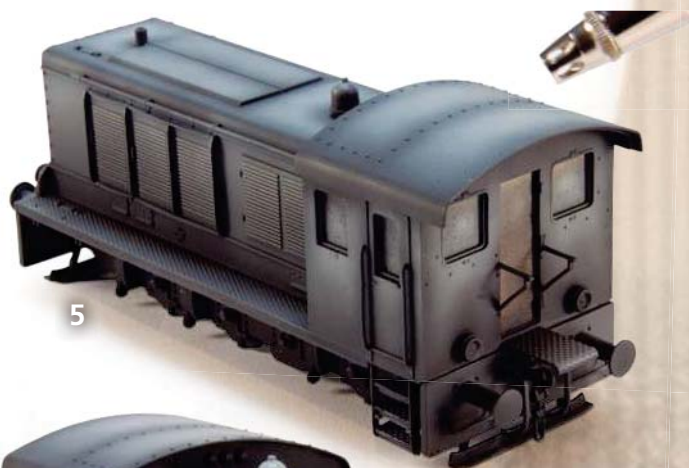
3

While adding gray in the base mixture, Transparator A.MIG-2017 was added in order to give the paint a translucent power. As a result, transitions to thinner layers are fine and subtle. I spray this mixture on the upper parts of the locomotive.



4

To highlight some parts of the model, masks will be used to spray the paint without effecting the surrounding areas. This step also makes it possible to give more volume to the locomotive, by creating depth to upper and lower areas.



5

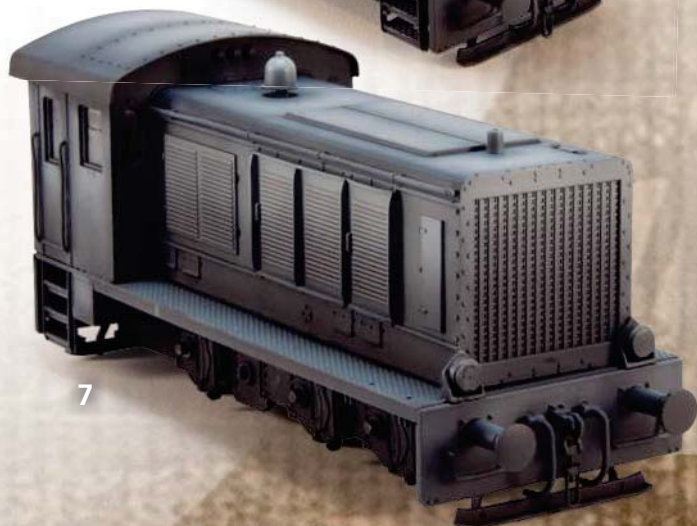


6

5 The final highlights are carried out with a proportion of 70% gray to 30% black, always adding Transparator. The areas to be worked are always continuously smaller and smaller. On this area, we will work the center of the panels.

6 On the vertical zones, only the upper areas are worked. The flexible masking tape for curves is used here, for the same principle as previously seen.

7 A base color is obtained which is lighted according to the zenithal light technique over the entire model.



7



8

In order to achieve the patterns of brown camouflage, Masking Putty is used to hide areas that will not receive this color. In addition to being reusable, this versatile tool is also easy to use and extremely effective. A toothpick will be used to delineate the borders of the camouflage.

9



Once the future brown zones are well defined with the putty, the band will cover the last visible areas that must remain of the initial color ...

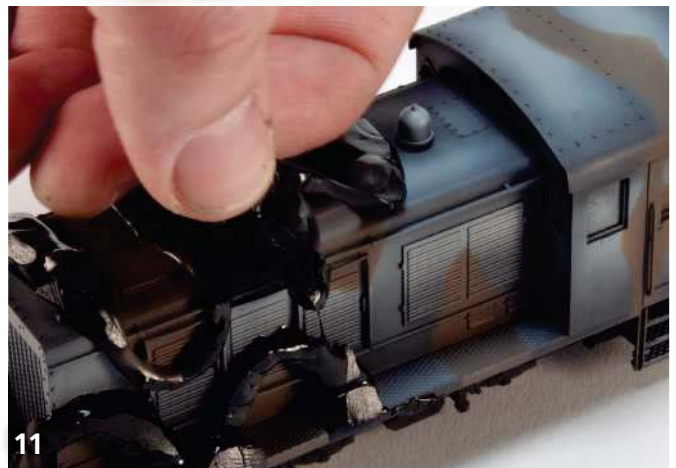


10

... then the color Dunkelbaun is applied with the airbrush.

12

... and the camouflage created finally appears. Be sure to check for any necessary touch-ups.



11

The putty is then gently removed ...



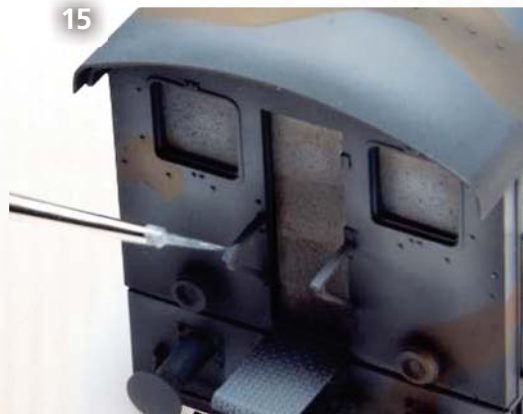
13

The brown zones are then thinned using the same methods used previously for the gray color. The color used here is always dunkelbraun A.MIG-007 mixed with equal parts with A.MIG-071 kaki.

14



15



14 The various details on the whole model are highlighted with a brush using the lighter colors used previously. Thus, the bolts, edges...

15 ... and some small surfaces and details like these guard-rails ...



16

... and the handrails are lightened. Of course, care should be taken to use the light gray on the grey areas and the light brown on the brown parts.



18

Then the upper parts of these pieces are then accented with a thinned pure red

17

Some elements of the chassis of the locomotive are painted red oxide. First, a dark color consisting of a mixture of 50% red brown shadow A.MIG-912 and 50% red A.MIG-049



19

You can see here the different parts treated with these colors and the dynamic effect.



20

20 Once satisfied with the base color, a coat of satin varnish is applied with the airbrush.

21 A black wash is then applied by brush around the details and in the recesses of the entire model.

22 Then a few minutes later, the effect is moved around the details and removed from the outside of panel lines with the use of a brush humid with enamel odorless thinner.



21



22



23

We can see how the wash gives depth to the locomotive once this essential step is complete.



24

The faded color shades are then painted with oil paints. To do this, I use no less than seven different Oilbrushers. Spikes of paint are then spread over the surface of the model. I take care to apply the light colors on the locomotive's light areas, and the dark colors on the areas of shadows ...



25

... then using odorless thinner for enamel, I blend the colors on the surfaces. However, depending on the area on which you are working, the movement of the brush is different. Here I am curving the roof of the cabin to pull the paints downward.



26

We use this technique of oil dot fading on the entire locomotive, always making sure to apply the light colors on the areas of light and the dark colors on the shadows.



27

Always using the appropriate thinner, I blend the colors to the base color. Here, the areas are horizontal, and therefore the movement of the brush is different than the movement for the previous step. In this case, I make a circular movement while delicately progressing from color to color.



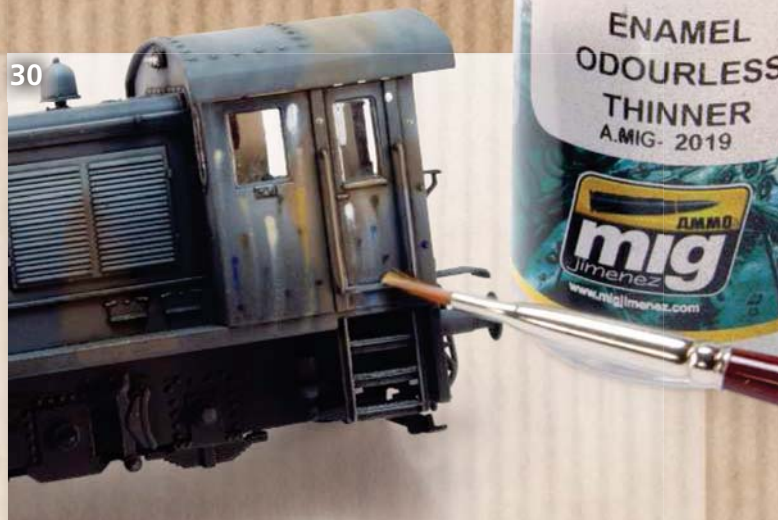
28

For vertical areas, I apply oil paints differently while respecting a certain logic. Thus, the Oilbrushers black, starship filth, and dark blue are applied to the lower parts of the vertical areas...

29



30



31



29 ... while the oilbrushers white, buff, medium gray and ochre are distributed on the upper parts.

30 Once again, using a brush damp with the odorless thinner for enamel, I blend these colors by using a movement from top to bottom with the brush ...

31 ... and I repeat this step until the colors are completely blended and I am satisfied with the result.

32 Once this step is done, the camouflage is finished and ready to receive the various phases of weathering.



32



Weathering railway (Railroad) locomotives and rolling stock has to be approached differently than modelling static models of aircraft or armour. For example, the modeller will have to weather many carriages and wagons to complete a particular train. Also, these items will receive much more handling than a static model, this means regular weathering products such as pigments would get worn away after the carriages have been picked up a few times. Pigments can be sealed in with matt varnish, but these tend to darken or reduce the pigment and spoil the final look. Our idea is to show a method of producing a nicely weathered American railroad boxcar that will not take too long to finish and will be resistant to frequent handling and look great on any railway layout.



John Murphy

This is how clean the boxcar looks out of the box from the manufacturer. Some model railway companies do supply rolling stock pre-weathered, but to be honest they look like they have just been airbrushed with some brown paint randomly around the lower sides and look unrealistic.



The first step is to airbrush on Humbrol Super Enamel No.26 Khaki. This is thinned with Humbrol Enamel thinner and misted over the undersides and lower sides of the bodywork.





3

Once the enamel has been left to dry for around 30 minutes, the next step is to use a brush wetted in White Spirit and start to drag the brush down over the sides to achieve a streaky look. Make sure the brush is not too wet, as it will remove all of the paint on the first pass of the brush.

Here we can see the streaking effect as the White Spirit evaporates. As we can see, the heavier streaks remain along the bottom of the boxcar.

4



5

Rust patches and chipping can now be added once the White Spirit has fully dried. For the rust areas we use Chipping A.MIG-0044 range of acrylics. The vertical frames have been masked off and a piece of sponge carrying a small amount of paint can be carefully dabbed onto these frames.



6

Further rust areas can be added to other parts of the boxcar. Here masking tape has been applied to create horizontal areas of rust.



7

Here we can see the completed rust patches and chipping. Compared to some reference photos this rust damage is quite restrained!



8

The model boxcar came with a bright silver roof and to tone this down a mixture of rust colour and brown acrylic paints were sponged onto the roof section until virtually all of the silver had been covered.



9

The roof section with the sponge effects completed. A sponge was chosen, as it would not cover the silver completely in the same way as if a brush had been used. The sponge also adds a little texture to the effect.



10

The Light Rust wash is best applied with a brush with long bristles, this help the wash flow over the surfaces and around the details. The drying time of the wash can be reduced by using a hairdryer on a low heat setting.



The light Rust Wash is then followed by a further wash, this time using a darker colour in the form of Track Wash. This is added mainly to the bolted panel joints and the recessed channels on each panel.

11

The trucks were painted separately using the same Humbrol Khaki as used on the rest of the boxcar.

12



13

The next step was to add a wash onto the trucks, by using an acrylic colour we save having to wait days for the enamel paint to dry before adding an enamel wash, which could soften and ruin the Humbrol Khaki colour.



14

AMMO Engine Oil A.MIG-1408 was applied to the axle hubs to simulate lubricating grease.



15

Moving back to the boxcar, we can now add a Light Rust Wash to the sides and ends of the body-work. Unlike the photo, this wash is best added while the model is laying flat on its side so the wash doesn't pool along the lower edges.



16

Once the Light Rust wash had been allowed to dry, some of Lifecolor's Sleeper Grime was misted along the lower edges to blend and tone down all the previous effects. This colour is available in LifeColor's excellent Rail Weathering paint set.



17

A mixture of Rainmarks for NATO Tanks and Summer Kursk Earth is applied. This was washed into the recesses of the end panels. It was also added as a pin wash to details on the lower sections of the sides.



18

Polished Metal A.MIG-3021 pigment was added to the independent brake wheel and chain using a fibre rubbing stick from an art supply shop.



19 The finished boxcar. When compared with the photo of it un-weathered, it is clear to see a much more realistic and attractive finish.

Br39

Before and after

Rivarossi analogic H0 scale br39



A steam locomotive offers so much potential for modellers who enjoy applying weathering effects. The effects of dust, dirt, oil grease and rust are present on these machines, making them the perfect modelling subject to have some fun with, but for fans of these electrically-powered model locomotives this can be a nightmare. The complex mechanical and delicate electrical components contained within them are easily damaged and don't take kindly to paint and soluble liquids, such as paint thinners!. The general rule for painting these locomotives is to remove the bodywork from the chassis and paint the parts separately. This however may not always be easy or convenient to do and not everyone can, or wants to dismantle their beautiful new and often expensive locomotive to weather it.

To avoid this problem, we are going to explain a simple and quick method to change a toy looking mass-produced model locomotive with the appearance of plastic into something individual that looks real and almost smells of burned coal and steam. With this technique we will also show how to achieve these realistic weathering effects without the need to disassemble any parts.



1

▲ The Rivarossi BR39 is the perfect blank canvas demonstrating these techniques. The detail is very good and as it's already painted, so all we can get straight on with the weathering.



2

▲ We are going to use a combination of alcohol and acrylic paints to produce the fading effects. The alcohol will not affect the original colour of the locomotive, because it is actually moulded in black plastic.



Mig Jimenez



3 We begin by painting vertical stripes down the side of the tender using brown acrylic paint.



4 Next we do the same, but with a medium grey colour. Don't worry if the acrylic dries quickly.



5 Now we dampen the surface with the alcohol.



6 The alcohol will soften the acrylic paint, so and we can then begin to smudge and blend these stripes and blobs.



7 The final appearance will at this stage be uneven. Let it dry and then repeat the process.



8 We now remoisten the side of the tender with more alcohol to blend the stains further.



9 Final appearance of the locomotive and tender after applying a few more colours to finish the fading effect.



10



▲ We can now start work on the wheels and frame with a black acrylic paint.



▲ First we paint irregularly shaped black blotches on to red areas using a fine brush.



▲ Using a flat brush soaked in alcohol we soften the spots and distribute them into all the nooks, crannies and recessed details.



▲ We now leave the black to dry before retouching any areas that do require further attention.



▲ Don't worry if you've got paint on the wheel contact areas, because this can be easily cleaned off later.



▲ The locomotive now starts to take on a nice discolouration to the paintwork, as well as toning-down the bright red chassis.



◀ These three Tamiya colours are diluted with Gaianotes lacquer thinner to add some dust and dirt effects onto selected horizontal areas and the sides of the boiler.

17



19



20



21



22

Using a brown enamel wash, we will create some streaking grime and rust staining.



23

Pigments are used to create irregular dust and dirt effects on the running boards. We apply various shades, such as grey and brown with a brush.



24

With a brush and A.MIG-2018 Enamel Odourless Thinner we wet the surfaces on which the pigments have been applied. This will help the pigment flow and accumulate into the tread plate pattern on the running boards.



25



25 B

Here we can see the effect once the thinner has dried..



26

Pigments are now applied to the tender sides, we use a combination of brown, rust and dark brown.



27

We repeat the previous process by soaking the area with A.MIG-2018 Enamel Odourless Thinner.

We can also apply pigments to the upper part of the locomotive's boiler.



29

Look at the same area after applying the thinner and then cleaning off the excess with a small piece cotton cloth.



28



30,31,32,33 To make the coal in the tender, we first glue gravel and small stones over the top of the moulded plastic coal with Superglue. The stones are then painted in satin black before a final dry-brushing with an enamel silver colour.

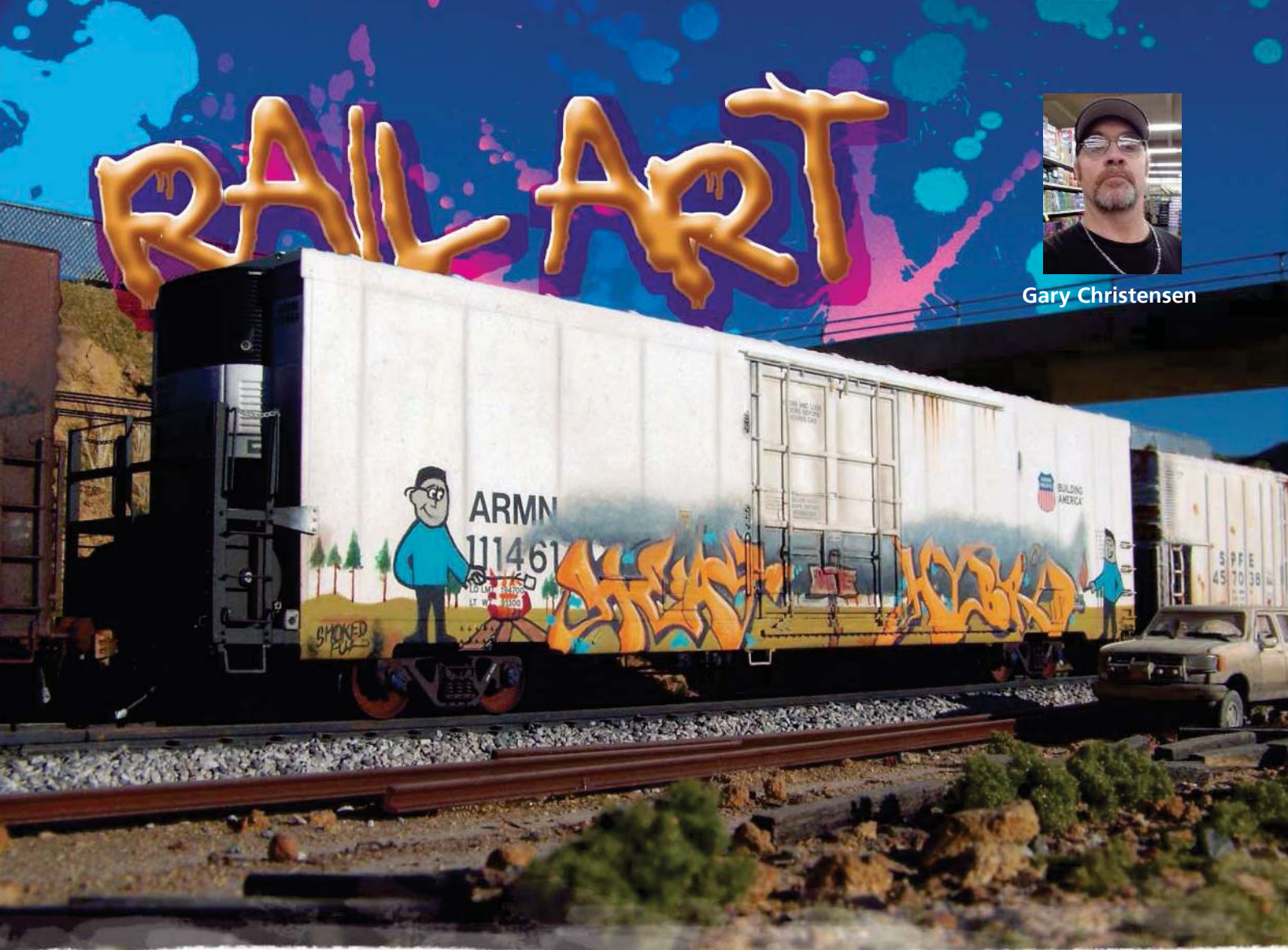
34 After we have applied so many pigments, we need to reinstate the contrast in some areas by re-applying some black and dark grey using an airbrush. Paper masks help control the areas we airbrush.

35 Here we can see how this has recovered the original black and helps to integrate all the other effects.

36 To finish off, we add some wet fluid effects using a mix of satin varnish and dark brown enamel paint.







Gary Christensen

Whether you view it as an eyesore or art, graffiti is certainly a backdrop of our modern landscape. Sooner or later, modelers whose interest rest in creating modern theme replicating the colorful images so often seen on alley walls and railcars will become

I definitely believe that there is a jungle out there along the rail lines that realizes (through graffiti), some of the most insanely talented people this world might ever know.

As the the controversial debate about graffiti on railroad equipment in the United States and worldwide gains traction and lurches forward, A continual factor intensifies the argument on whether it is unlawful, right or wrong etc. One might find themselves asking as they read and follow my article, "Does the author here actually condone graffiti"? This question can simply be answered with the fact that I personally do not uphold any real cemented opinion about it in any which way on either front, right or wrong. At times, I have an appreciation for it and then there are times and situations where where I don't appreciate it and actually there are times where I find it loathsome and a bit overwhelming.

With that being said, another question might come to mind as some might wonder why I replicate it on model railroad freight equipment in 1/87 scale from time to time? My reply to this would be that I strictly enjoy the exhilaration in the challenge of duplicating some of the more interesting tags in small scale...and that is all. I definitely believe that there is a jungle out there along the rail lines that realizes (through graffiti), some of the most insanely talented people this world might ever know. Still the fact remains that I replicate it in model form for the sheer unadulterated challenge of it.

Any project that I undertake that concerns graffiti on a small scale freight car begins with finding an interesting prototype example to use as reference for the art that will be hand painted on the model.

In the case of this article, I surfed the internet for some of the more prolific examples of large "end to end" graffiti pieces on a prototype car. I found the contemporary Union Pacific ARMN 64' Trincool reefers as a good source in the search for this article. These newer model cars are bleach white in color and are prime targets for graffiti artists. Not a better canvas for this kind of "rattle

can" form of art expression can nary be found. I found that a photo of ARMN 111461 would be a great subject for my project, as photos of both sides of the car where readily available. I also found that the colors in the "burners" (graffiti) on both sides of this prototype are very outspoken, vibrant and considerably challenging. So,... after printing off reference shots of this particular ARMN reefer, I set up my studio to prepare for the project.

I begin each model project where hand painted graffiti will be the focal point by studying the prototype picture and then I can decipher which colors I will need to manifest the graffiti on the model.

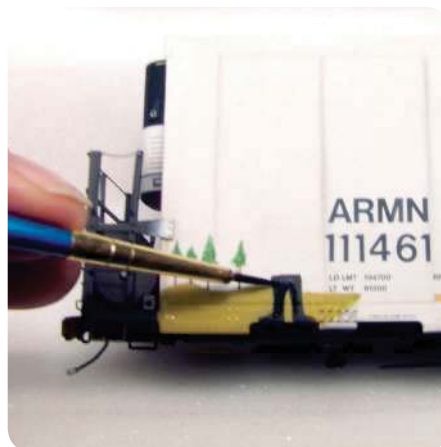
I always use the cheap craft acrylics. They are available in a plethora of hues and colors and can be purchased for a few coins at almost any retail dept.type store. These colors are cheap in cost, but by no means are they cheap in their credentials to get the job done. They mix well and can remain active for mixing with other colors, so long as water is continually added . As I label these small bottles of acrylic paints, "cheap", in all aspects of the hobby, do I find them extremely valuable.



On to this featured model project:

The way I go about hand painting graffiti on small scale models is rather left of center, or can be considered a bit unorthodox in the methods in which I create. On the average, most replicators of graffiti in small scale use a template or a text book technique style by the use of decals, traced examples or penciled outlines of tags with a base coat "fill in" of white gesso or acrylic paint applied before the graffiti colors are added. To me, I find more times than not, that this method is prone to unnecessary build up of paint in multiple layers that will render the paint curdled and thick and VERY unrealistic when viewing.

When I approach a project such as this ARMN 111461 reefer, I always pre-mix my primary colors on a ceramic plate that acts as a pallet. Here, I can add the necessary amount of diluted water to keep my acrylics thinned and ready to mix. At this point, after the model has been slightly weathered as per a prototype match, I begin with the initial color lay. The color (however shallow or deep) is prepped on a separate pallet. I then find a characteristic feature on the model to use as guide or rule as to where the initial beginning of the graffiti will commence. Once I've lined everything up and find my mark on the model as a starting point, I use a set of 3 clean, ultra fine tipped, small, soft sable type brushes that I will swap out for different use throughout the entire session. Each "end to end" graffiti piece that I hand paint on a model, I try to allot at least 8 to 10 hours of time in the session to complete the work. I find it difficult at times to exactly match paint colors once an initial application has been applied to the model. To excuse myself from the project during the 8-10 session, might render enough time for the mixed acrylic paints to dry.





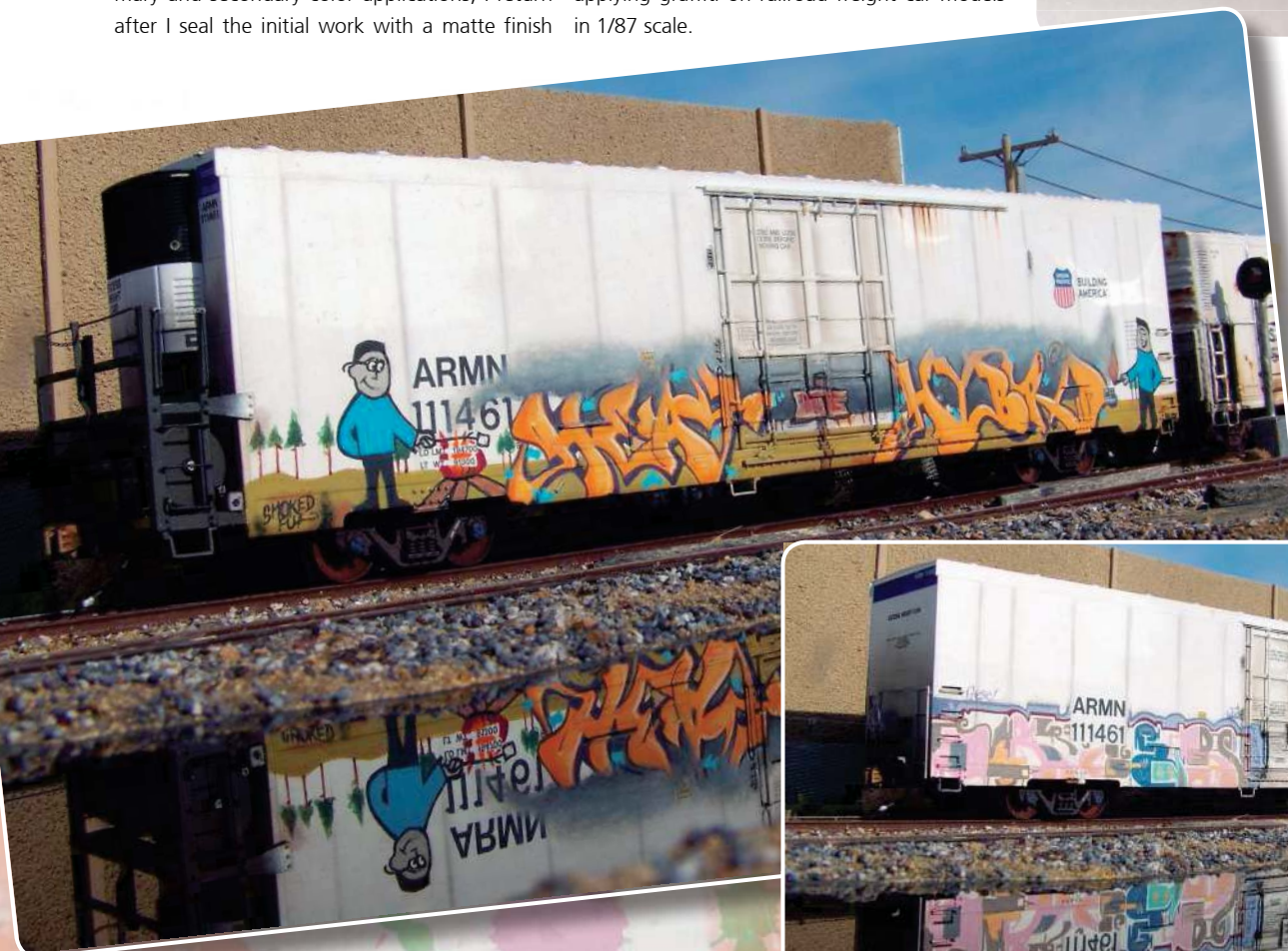
It is easier for me to re-activate the paint from drying with the small drops of water that I continually add to the color mixes. This can only be accomplished during the prolonged 8 hour session that I allot myself.

As a rule, I ALWAYS work from left to right and just look my work over as compared to my reference photo of the prototype. At no time, do I pencil patterns or anything ahead of myself. While certain colors that have been laid down are permitted drying time, I am constantly mixing other colors on the pallet that will come in as drop shadows, slashes, splash borders, bubbles, stars and other fine line details and overall borders on the graffiti. Moving left to right in a freehand style, also allows me the liberties to make corrections if needed, so long as the acrylics remain active. I then continue in the left to right freehand style in a progressive manner until I have reached my visual terminus at the far right hand side of the model.

When the entire graffiti is complete with primary and secondary color applications, I return after I seal the initial work with a matte finish

and I can add the final touch details, i.e. rattle can over spray effects, small characters, or "scribblings" if you will (the tell tale signature of the graffiti artist in real time). Once the entire model is done to my satisfaction, I then seal all of the work I've done with a misting of matte finish. As a finale, I will create a VERY diluted wash with light gray acrylic paint and water at a ratio of approximately 30% paint – 70% water. With this wash, I will lightly brush over the entire graffiti, car wide, to tone down the vibrancy of the colors. This lends to a more realistic appearance of graffiti that has been sprayed on prototype railroad equipment that survives in a very hostile climatic environment.

Summarily that is about the total assessment of the methods and techniques that I employ. As aforementioned, I go about this aspect of my model weathering and detailing in a fairly unorthodox way, which renders minimal in written explanation, therefore, perhaps the accompanying photographs to this article might lend as a better visual idea to the way I go about applying graffiti on railroad freight car models in 1/87 scale.







Real ↗

RETIRED
GIANT





Deák Róbert

Here in Hungary, everybody knows of and loves the cult classic M61 diesel engines – nickname “Nohab” after the name of the Swedish manufacturer. The Hungarian State Railways (MÁV) purchased 20 Nohabs in the 1960s. Further imports were stopped due to the political conditions of the Iron Curtain, and after the initial twenty M61s, MÁV had to buy M62 diesel engines from the Soviet Union...but that is another story.

My choice is the M61 002 engine. There are a lot of photos of this 002 available, ranging from the time when it had all its strengths until it was standing in a rather sad condition. When I found this photo of the M61 002, I couldn't resist making it. Although the condition of this engine is very poor, from a modeller's point of view it is a real gold mine with a lot of superb weathering and unique characteristics such as the cut area in the front, the windows, and of course the canvas covering the top, as well as many other eye-catching details – the ideal subject for this Real Issue. Now let's see the steps of building and painting.





1 Here we can see the Nohab model right out of the box produced by Roco in the scale 1/87, H0. There were many components that I chose to improve, add, or change.

2

I don't want to spend too much time discussing the detailing work. Here we can see the upgraded model ready to paint - the difference is significant.



3

The first step in the painting process is the application of surface primer. I chose grey primer (A.MIG-2002) because the final body will be quite light, this grey primer will cover the original dark red very well, and will not have much influence on the upcoming light red base colour.



4

The faded red color was mixed from A.MIG-049 Red and A.MIG-047 White. This mixture was airbrushed, followed by lighter tones mixed and added with sponge.





- 5 The markings were painted with high quality airbrush masks produced by Limes Laser, Rescue Models. When it is possible, I always prefer to paint the markings instead of using decals. First the black rectangle was airbrushed with A.MIG-032, followed by the white lettering and numerals within the black area painted with A.MIG-050. The small MÁV text was also airbrushed using the mask.



- 6 The trickling water on the sides leaves noticeable lighter streaks. The first layer of these streaks was reproduced by using AMMO washable acrylic colors (mixture of A.MIG-024 Washable White & A.MIG-105 Washable Dust). The process is very easy, simply airbrush a thin coat of washable acrylic color then the surface is moistened with water and a stiff brush is used to remove a part of the washable acrylic paint, leaving a realistic streaking effect on the side panels.



7

After painting the areas and components which are a color other than the body's light red, I highlighted the details with a pin wash. I used a dark brown enamel wash (A.MIG-1005) to get a strong contrast. Personally, this is one of my favourite steps as the pin wash really brings the subject to life.



8

I love this specific detail on this Nohab – the cut area. First I made a mask using AMMO masking putty leaving the area uncovered for the widest zone – a red color darker than the base color. As can be seen here, I created the traces of the cut beforehand with a needle and now the darker red color will go around this cut.



9

The darker red color is airbrushed, then the masking is removed. Masking putty (A.MIG-8012) is a very useful tool and fun to work with, it can be placed on the surface and shaped with a tool according to our needs and references.



10

The shape of the darker red area is exactly what I wanted. Masking Putty allows us to isolate specific details, while protecting the surrounding areas.



11

The other aspects of this cut area have been painted by brush and acrylic colors, followed by an enamel wash. This was a critical point of the painting process as this cut area is very eye catching in the real photo.



12 Now I added some streaking effects using enamel products (A.MIG-1204 and A.MIG-1005). First I painted a line in the correct location, then it is shaped and blended with a brush moistened with enamel thinner.

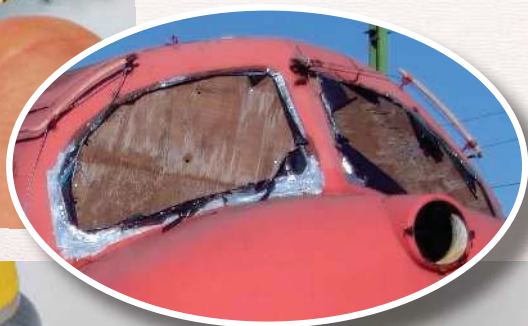


- 13 On the lower parts of the body we can see the accumulation of dark colored dirt. For this I used AMMO chipping fluid (A.MIG-2011) and enamel effect (A.MIG-1407). First the chipping fluid is applied, then the enamel effect was airbrushed in place.



14

The chipping fluid was activated by water and streaks were achieved by moving a stiff brush vertically and gently on the surface. It's a very good process used to create dirt on vertical surfaces. You can add as many layers as you need and if the appearance of the streaks is not satisfying, you can remove the whole enamel effect with a brush moistened with enamel thinner and start the effect again.



15

More streaks were added, this time using light coloured enamel effect – A.MIG-1208.



16

In the real photo, the whole of the windscreen is covered by nylon. This nylon is fixed in place with metal coloured adhesive tape. To make these strips of tape, I cut small strips from masking tape and painted them with AMMO Silver acrylic color (A.MIG-195).

17

The appropriate shaped piece of nylon was secured with the metallic coloured tape, just as it was done on the real locomotive. In the original photo, we can recognise that the nylon is no longer intact and appears torn, so I replicate this important detail with a heated needle.

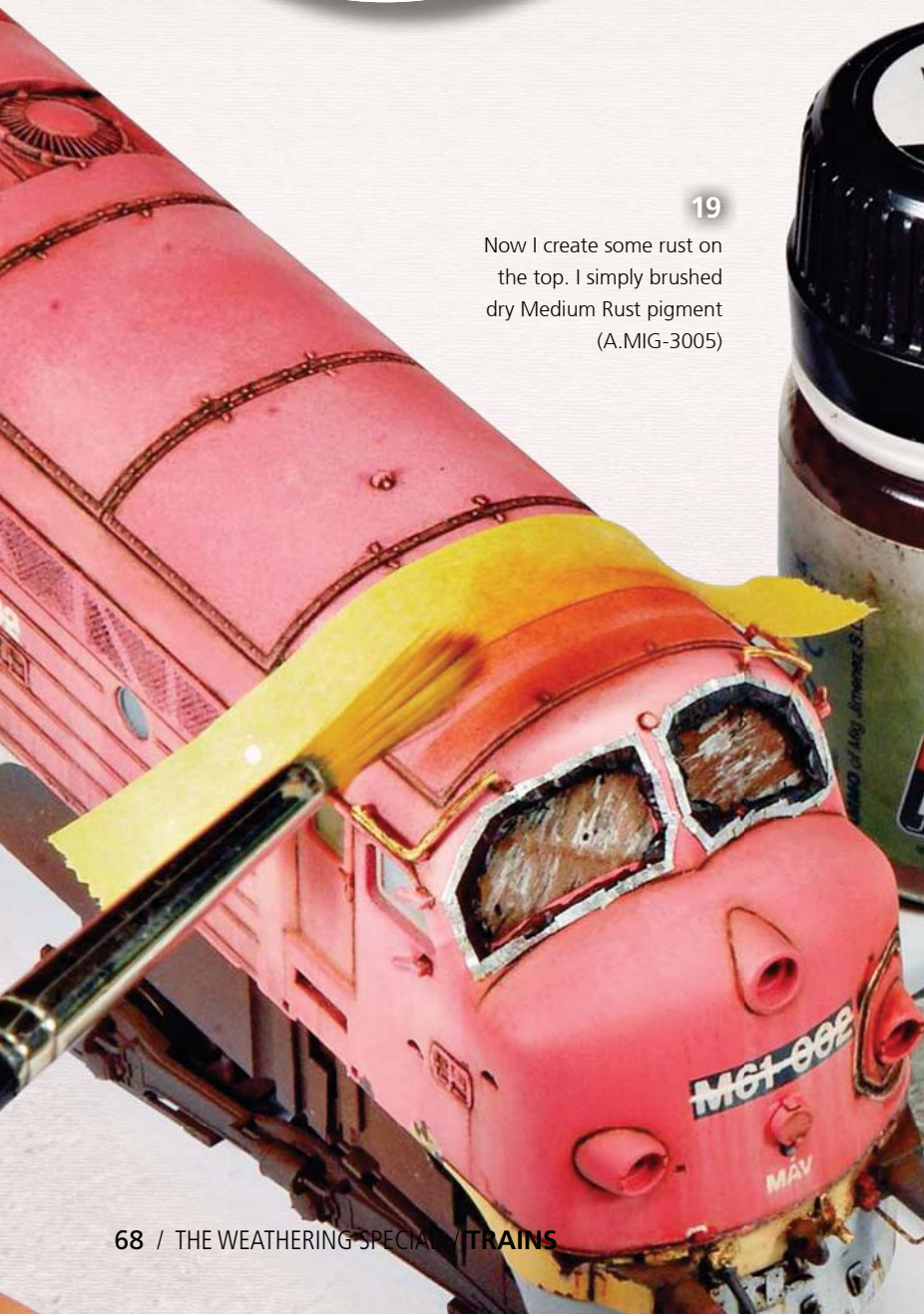


18

Next I have painted the panels which covers the whole behind the torn nylon. The panels were cut out from Balsa wood then painted with AMMO acrylics (A.MIG-042 and A.MIG-905) and enamel wash (A.MIG-1008).

19

Now I create some rust on the top. I simply brushed dry Medium Rust pigment (A.MIG-3005)



20

The base color of the canvas was mixed from different AMMO acrylics (A.MIG-003, 119, 910 and 103).

21

First, I fixed the canvas onto the top with slow dry cyanoacrylate (A.MIG-8013) then the rigging was added with AMMO elastic rigging to avoid a loose appearance (A.MIG-8018). The rigging was also fixed with the slow dry CA.



22

Finally I assembled the model's upper and lower hull and added the dirt onto the horizontal surfaces. Two different shades of brown pigments (A.MIG-3002, A.MIG-3004) were added randomly on the surface, then the dry pigments were moistened with enamel thinner. If you prefer you can blend the colors together a little bit with the brush while adding the enamel thinner or just wet the pigments adding small drops of thinner, letting the capillary power distribute the pigment.

23

When the pigment is dry again, it can be removed from the unwanted areas with a dry sponge or brush, and can be reshaped if needed with a brush dampened with enamel thinner.





FROM TOY TO MODEL

RENFE SERIES 303 SWITCHER LOCOMOTIVE



Mig Jimenez

During my childhood, I grew up in a neighborhood next to my town's main train station. At night I could hear the horns of the freight trains and during the day I often went with some friend to play by the tracks near the station. Playing among the rusty and greasy freight cars was really exciting; we ran away when we heard the 303 series locomotive arriving to haul the rolling stock. The engine has a deep and distinct growl, like an old bear. I clearly remember how large the black plumes of smoke were, disproportionate to the small size of the locomotive itself. Through all these years, that dirty engine has been in my memories, and today, at 45 years old I still can remember that locomotive as clearly as when it was in front of me. It's amazing how I can even recall every shade of grease and gunk, just like the first time I saw it.

This issue of TWM has allowed me to bring back these indelible childhood memories. This project was made possible thanks to some friends from Zamora, that kindly gave me permission to publish their photograph of a RENFE (Red Nacional de los Ferrocarriles Españoles - acronym for Spanish railway network) 303 series road switcher from the same model and era, and the excellent model from Electrotren.

This particular engine is the perfect platform to show how a pre-assembled and pre-painted train model in HO scale can be converted into a lifelike replica of the real locomotive. The Electrotren model can be considered a die-cast in the broad sense of the term; although the frame isn't made of the typical injection molded metal alloy used in those type of kits, it comes painted and assembled like die-cast models. The model includes numerous metal, plastic, and clear parts, and the level of detail in general is quite high.



Before



1

The 303 series comes in the usual boxing style of most HO scale (1/87) models, very well protected and packaged. An essential measure, as the model is extremely fragile and delicate.



2

A stout plastic blister protects the model from bumps and shocks, a typical solution found in pre-assembled die-cast replicas.



3

We get an accurate 303 series machine straight out of the box. Nothing to add or paint: simply perfect for our purposes.

Mod. ELECTROTREN RENFE 303



After



4

It will be necessary to disassemble some parts in order to ease the weathering process. It's very simple to do and we won't need to remove the electronic components.



5

The most important area that must be removed is the upper body to prevent the washes from seeping inside the electronics by capillary action.



6

The first step will be applying various washes with a dark color to the entire model. AMMO products are enamel, but they don't damage the surface or attack the factory-applied paint.



7

The cabin roof is disassembled to make the painting much easier.



8

Once washes have been applied to all the surface details and panel lines of the model, we let it dry for a few minutes without touching it until it's dry to the touch (as soon as it's no longer shiny).



9



10



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The barely dry enamel product allows us to remove the excess wash very easily by lightly passing a make-up sponge across the surface.

The next step involves another essential product for train models, ENGINE GRIME which realistically imitates grease and gunk. The dark enamel color is airbrushed onto the lower areas and horizontal surfaces.

12





13

Once applied, any excess is lightly wiped off with a make-up sponge once again. Next, we apply a clear matt coat to the entire model with AMMO Matt Lucky Varnish. This acrylic product is applied directly from the bottle without diluting.



14

Now we have a nice matt surface onto which we can add earth and dust color pigments.

15 The pigments are randomly applied to the same lower areas and horizontal surfaces.



16



17

16 17 Then we moisten the pigments to distribute them over the surface. The Odorless Thinner can soften the varnish if the coat is very thin and we flood the surface with thinner. If you're not experienced with the product, I'd recommend to use water instead, as there is no risk at all of the varnish being effected.

18 Once the pigment has dried, the color becomes more natural and the effect integrated into the finish. And now it's time to apply yet another matt coat.





19 20

Oil paints are used to emphasize the dust effects. AMMO Oilbrushers are very easy to work and dry to a matt finish. The paint is first applied with a fine brush and then we blend it using Odorless Thinner.



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22



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Now using the sponge one more time, we apply a mixture of rust colors to represent rusted and damaged spots. We can use various tones in different areas for added visual interest.

It's time to add more washes to accent all the details that have been 'softened' during the previous steps, especially door and panel lines which require lots of depth and contrast. You can use the same wash color we applied in the first step.

24





25 26 27

The enamel product Light Rust Wash is added to the lateral platforms in order to tie in the rust chips we applied before.



This is one of the easiest and most fun steps in the entire process. The pigment Metal Slag is perfect for lots of effects on railway models; it creates a unique and very realistic appearance. In this case, it has been mixed with a little water and applied onto the roof and exhaust chimney.

The same pigment suspension is also added to the buffers and couplings.



30 31

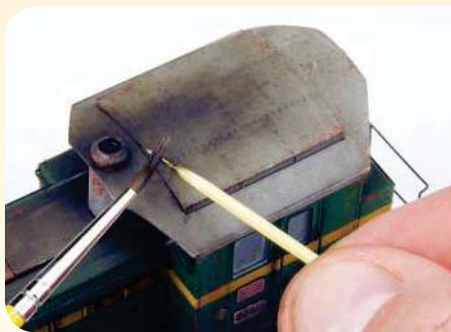
Once the water dries, we can retouch the pigments with a sponge. The resulting effect is extremely realistic and lifelike.



32 33 Use a light rust pigment tone to enhance and add contrast to some parts of the side platforms. A few touches will be sufficient to add more variation.

34

The single most important step is the application of oil and grease splashes and stains. It's essential to make some tests on an old model, a piece of scrap plastic, or another inexpensive material before adding the effect to the model. The product Fresh Engine Oil is the most appropriate for this, as it realistically depicts the glossy texture of oil and grease on machinery. Add a small amount of thinner to avoid a glossy finish.



35 36

We dip a small brush into the enamel product and then use a toothpick to pull the bristles back and splatter the color over the roof, creating extremely realistic tiny droplets. It's better to do a few splashes first and repeat the process if you want a more intense effect, because it's easy to overdo it if you're not careful.

37 38

The grease accumulations on the engine doors have been applied in two separate steps. First, we add just Fresh Engine Oil diluted with a little Enamel Odorless Thinner if necessary. Apply the color only to the door's lower parts in an irregular pattern.





39 40

We can also add some stains with the same product on the center of the buffer heads and their moving parts.



41

41 42 43

Finally, we have mixed the oil and grease product with black pigment and the resulting mixture is applied to the same areas in order to add texture to the gunk, creating a more realistically nuanced appearance. The edges must be blended to avoid a stark demarcation and tide marks; it's as simple as using a little thinner to feather the edges. Once dry, the effect is strikingly realistic. If you want a more shiny finish, simply add a few extra touches of Fresh Engine Oil without pigment.



42



43

Special thanks to the guys at www.TrenZamora.es

Before



After



Before





RENFE



RENFE 10800



Mig Jimenez



Ref: 81507D diesel DCC Digital
www.mabar.es



But of course this is a joke. It is not a locomotive captured by Volkswagen, but as soon as I saw this version I thought it would be fun to build it for this issue of TWM. I am first and foremost an AFV modeler, so evidently, I have been influenced a lot by the Beutepanzers, which are the tanks captured by the Germans in WWII and then put into action against their former owners. So, when I saw this loco painted in the colors of the German manufacturer Volkswagen, I thought it would be a humorous feature for this issue, as it fit the subject perfectly. In addition to this, I believed that painting a very clean train engine in grey, white, and those blue stripes, while also adding extremely localized weathering effects like smoke and rust marks, would be a fascinating challenge and an original way to depict this locomotive produced by the Spanish manufacturer MABAR.



VOLKSWAGEN

Beute Lokomotive



It is a DCC model converted to represent the Volkswagen variant. I also have a deeper personal interest in such a project: my father worked as a train engineer for Volkswagen in the Spanish region of Navarre, and he conducted the two previous models in use before this one became operative. He is now retired; this is a small tribute to him and an entire childhood surrounded by trains.

RENFE is the Red Nacional de los Ferrocarriles Españoles —the former state-owned company that operated all the rail transportation in Spain. They used the old 10800 series manufactured in 1968 by Babcock & Wilcox under license from General Electric as freight locomotives and switchers. This one in particular was operated by RENFE and later became part of the Volkswagen railroad fleet. The Volkswagen factory in Pamplona had been using a MTM DH300 engine before, but it lacked the necessary power to haul longer automobile and con-

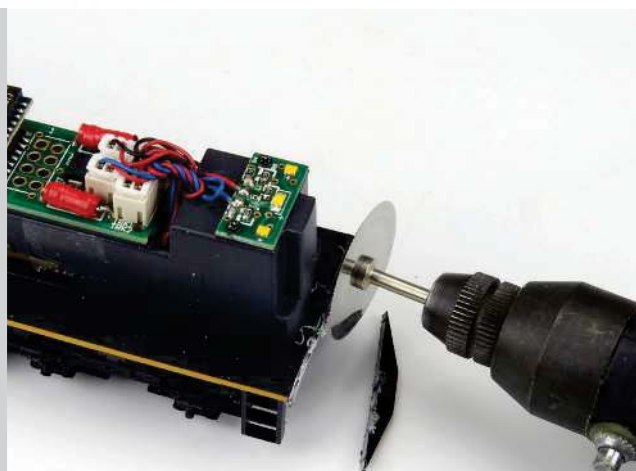
tainer assemblies. So, this new locomotive —affectionately called yé-yé or yeye after a style of pop music that appeared in Southern Europe in the sixties— took the job of bringing heavier loads into the plant and hauling cars of finished automobiles out the factory almost on a daily basis. Volkswagen painted them in their livery, the same corporate colors sported by the huge factory. So the challenge was achieving this complicated scheme of subtle and difficult tones, as well as all the lettering and symbols covering the engine. For this task, Sergiusz, our editor at TWM, contacted his friend Krzysztof Wasiak to solve the problem of making so many specific symbols and insignia. He created them in two different mediums: traditional waterslide decals in full color as well as adhesive masks to be used as stencils. His work was truly amazing and most accurate. I would like to thank him, without his contribution this project would have been impossible.

THE CONVERSION

Unfortunately, this version of the Yeye is not the same as the one operated by RENFE and produced by MABAR in model form, so we had to modify it accordingly.



First of all we had to disassemble the upper part and remove all the details including windows and railing.



The front part of the chassis was cut away and removed because this area was round on the RENFE model and flat on the variant used by VW. .



Meanwhile we apply a primer coat –white on this occasion. It is highly recommended to carefully sand off the yellow stripes and lettering that comes already screen-printed on the model. If we obviate this step, the edges will become apparent once the primer and subsequent layers of paint are applied.



After letting the primer dry thoroughly we airbrushed the base color, a very light grey mix of Compass Ghost and White mixed with Satin Varnish. Add 30% varnish to the color mix. In this case we have used a 40/60 white to grey ratio.

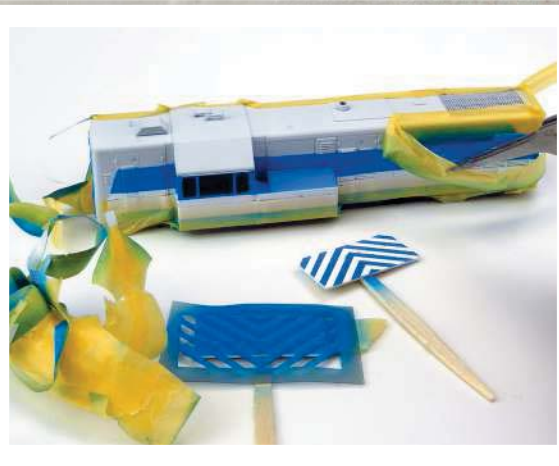


The blue stripes were painted using different types of adhesive masks. Laser-cut masks are also used for the front and rear areas.





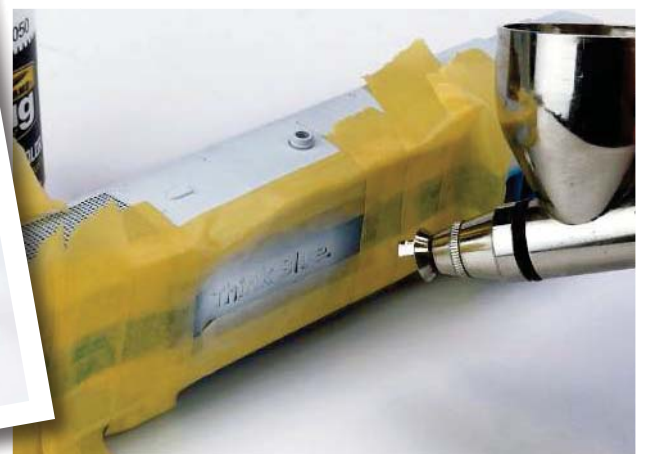
The acrylic color A.MIG-0086 is a perfect match for the VW corporate color. We just need to add 30% satin varnish to obtain a uniform sheen across all colors.



After a few hours the masks are carefully peeled off with the help of tweezers.



Then we apply the laser-cut masks for the lettering.



And airbrush white or blue where applicable.



A spectacular result is revealed when the masking is removed.



Finally we need to apply a satin clear coat to obtain a consistent finish. This is a crucial step.

Think Blue



For this model we have used PLW Medium Grey. Let it lightly flow into the panels, without flooding the rest of the surface.

After letting it dry for 24 hours we can start applying the washes. The Panel Line Wash (PLW) range, specially designed for aircraft models, is also perfect for this task. The colors are subtler and the wash itself is finer and more diluted than the standard AFV washes.



Most excess wash is then removed using a wash cleaning tool from Mr. Hobby.



It is a very simple job: the only thing you need to do is gently rub the surface with the cleaning tool as soon as the wash is barely dry to the touch (which only takes a few minutes).

Blue



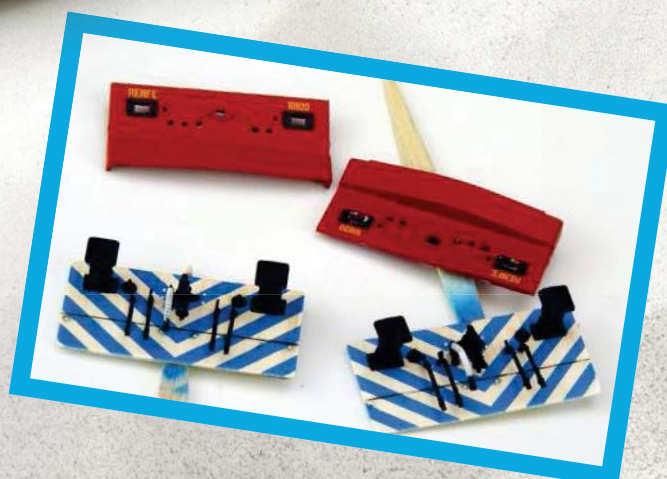
The final result is extremely precise and easy to do.

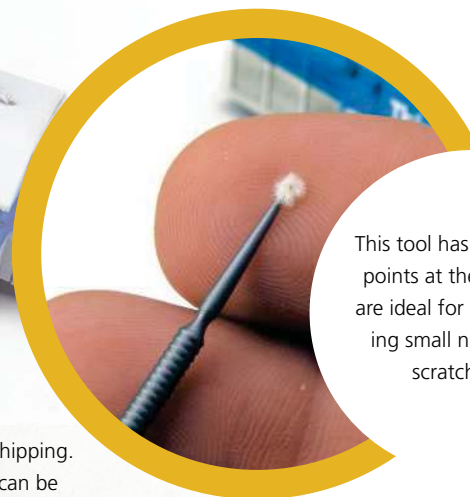
Now we are going to apply some streaking effects to the front panels. First we paint vertical lines and then blend them with a flat brush slightly moistened with Enamel Odorless Thinner.



At this point we have the model ready to receive all the painting and weathering effects that will bring it to life. For instance, a foundation for the smoke stains is airbrushed using Engine Grime.

Here you can see how the front area has changed from the original once all the details have been transferred from the original part.

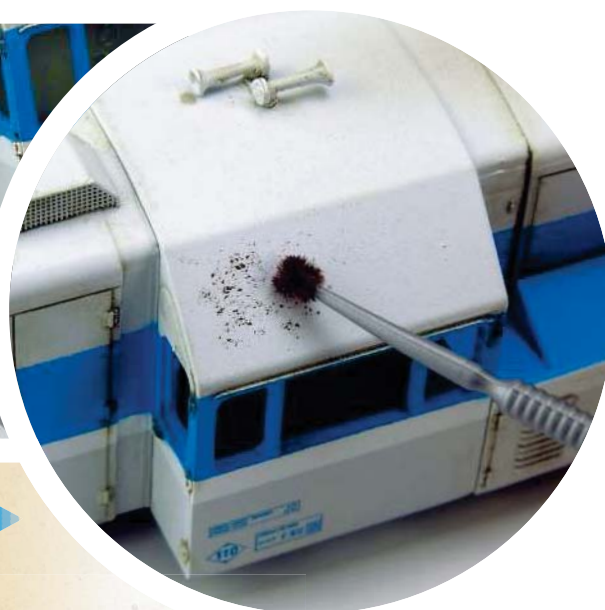




This tool has very hard points at the tip that are ideal for reproducing small nicks and scratches.

Now it is time for a delicate and difficult moment for all modelers: the chipping. This time we are going to use a new multitask tool from AMMO which can be used for, among many other things, creating very fine chips in hard to reach areas or smaller scales.

The process is as simple as lightly dipping the tip in an undiluted rust color, then dry it onto a paper towel and start touching edges and surface details to create extremely fine chipping effects.



We also add chipped paint effects to the cab roof and some edges.

Making a few tests on an old model or scrap piece of plastic is of utmost importance; this will allow you to become familiar with the pressure and amount of paint needed. Don't forget it!

Next, we airbrush a small amount of rust color to reproduce the effect seen in the reference picture.



The result must be pretty subtle. It is really easy to overdo this step.



Then we use Oilbrushers to finish the work on the rust areas.



They can be applied straight away using the applicator brush in the cap, as it allows us to work very precisely and save product at the same time.



Once the oil has been applied we blend it using a clean brush moistened with Enamel Odorless Thinner. Then the model is set aside for a few hours to dry.



We can create dirt and grime stains in some areas using Engine Grime straight from the jar and then blending it with AMMO Enamel Odorless Thinner.



Now we continue working on the upper part of the exhaust with an earth pigment tone. This particular locomotive produced a deep black smoke that left a great deal of soot on the vehicle. Once we have applied the pigment, the surface is carefully moistened with Enamel Odorless Thinner.



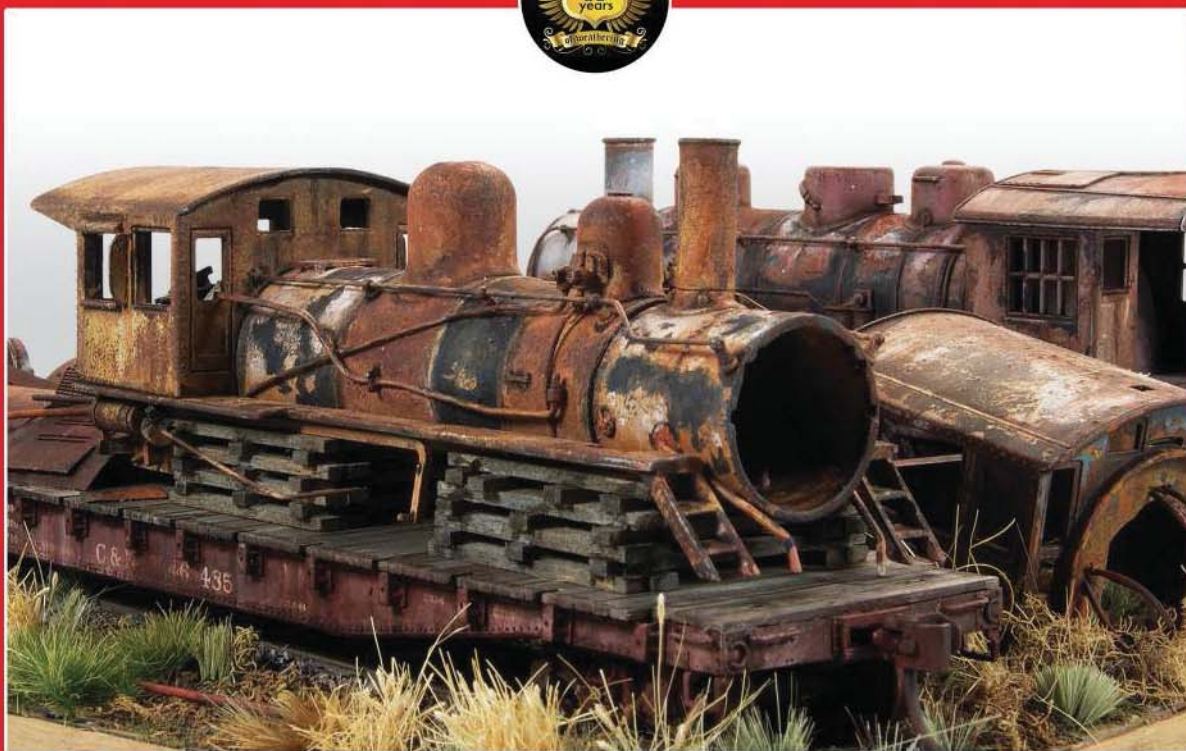
1 - 2 - 3 When it has dried we use a make-up sponge to remove the excess with passes moving from front to back.



Finally, Metal Slag is used to repeat the same process. Once dry we can add some engine oil and grease splashes to create a final touch of realism.







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A.MIG-6142



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