

BRITISH RAILWAY MODELLING

BRM

Weathering

Guide to



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This guide compiles the best weathering practical and advice articles from the pages of BRM. Whether you want to rust some wagons, make your locomotives more realistic, or add grime to your buildings, find all the information you need to help get started.



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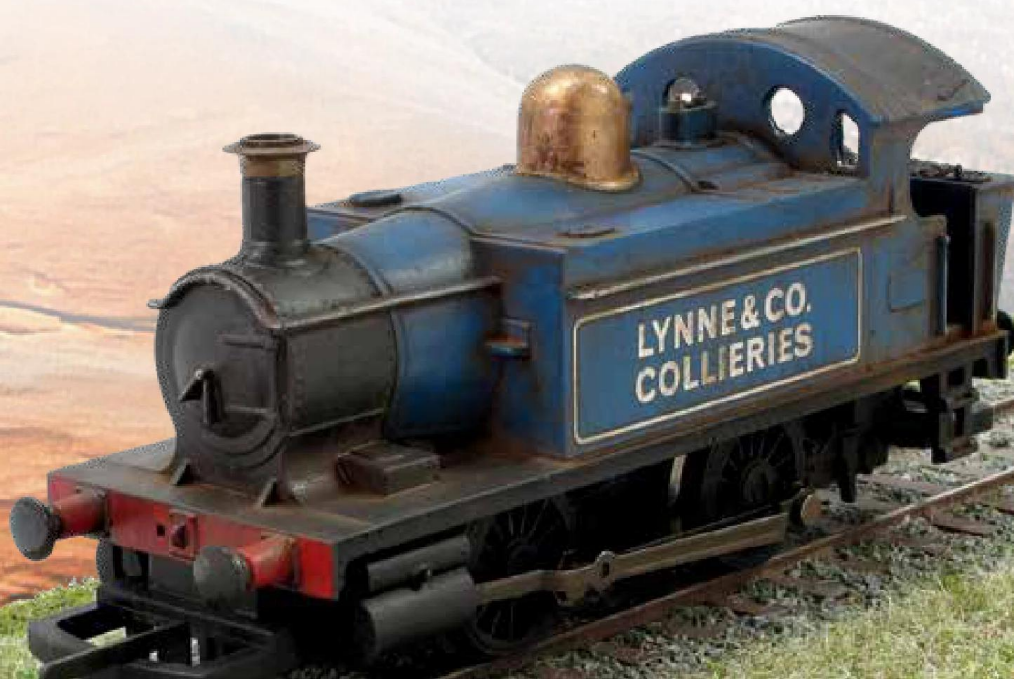
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How to...

MAKE IT GRUBBY



This Ivatt 2MT 2-6-0 is a ready-painted RTR Bachmann Brassworks factory-finished model that has been transformed by rubbing-down, weathering and glazing.

Award-winning theatrical designer Giles Favell shows how to achieve impressive weathering results on any model, whether static or in motion on your layout.

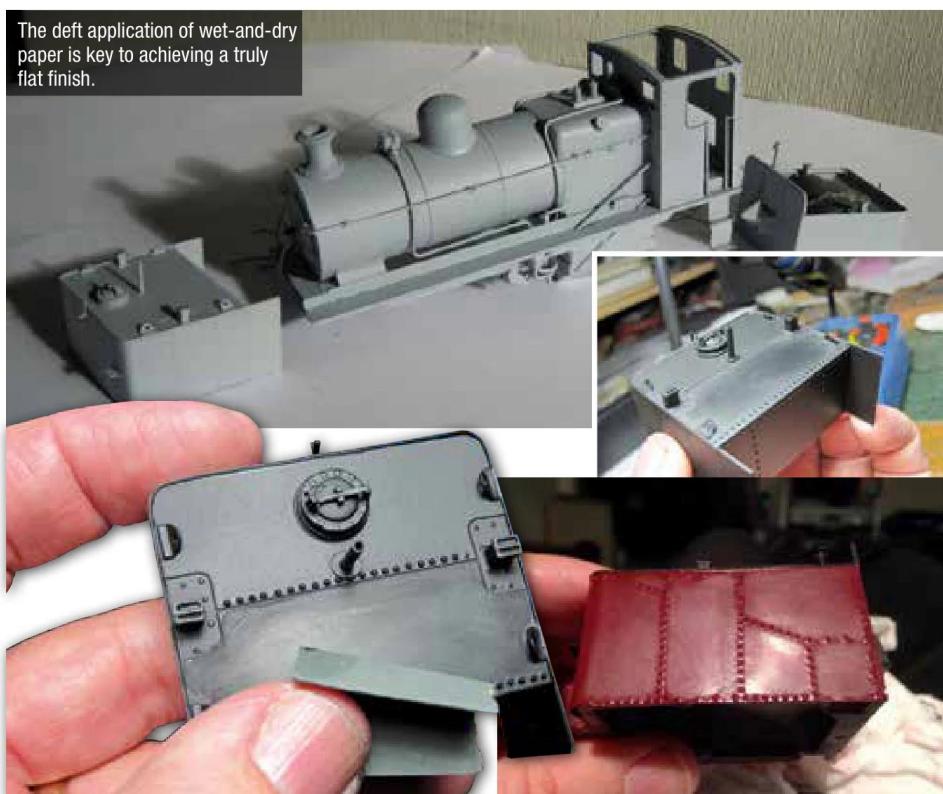
We go to enormous lengths to build accurate miniatures of nature, structures and railways – all portrayed in our chosen moment in time. Every little piece contributes to the overall picture or scene that we are endeavouring to create. Weathering is one of the primary tools to that end.

Factory-finished locomotives stand out a mile on a weathered layout or scene. I don't run locomotives until they've been weathered. They all attract attention on a layout and I believe it's worth spending some time on them.

FLATTENING PAINT

If painting a kit or scratch build it's cleaned and given a coat of primer. I normally use a can of grey primer for anything remotely plastic, or U-Pol Acid 8 Etch Primer for metal – available from numerous outlets online. For smaller scales, getting an airbrush out is worthwhile, but life is too short, and I confess to being lazy. All aerosols are extremely crude, leaving a poor

The deft application of wet-and-dry paper is key to achieving a truly flat finish.



finish, so once dry, I rub surfaces with 1200 grit wet-and-dry paper to get rid of high spots.

Once the top coat is applied, I use 2000 grit wet-and-dry paper to rub it down too so it's truly flat. I fold the wet-and-dry into a 10mm x 10mm square, and use it wet, working the entire panel right up to rivet lines. It is regularly wiped clean so I can see how quickly bumps disappear.

With everything now looking matt, you have a choice - a light buffing will give it a gentle aged gleam for further weathering, or you could give it a full polish to give it an ex-works finish, where it would still benefit from extra distress.

POLISHING MODELS [see pics in folder + leave room for captions]

Buffing with a paper kitchen towel gives enough shine, but I sometimes give models a wipe with Duraglit silver polish. Be quick though, so that solvents don't disturb the paint. Buffing with the kitchen towel after a wipe with a polish gives a brighter shine, so use it with caution.

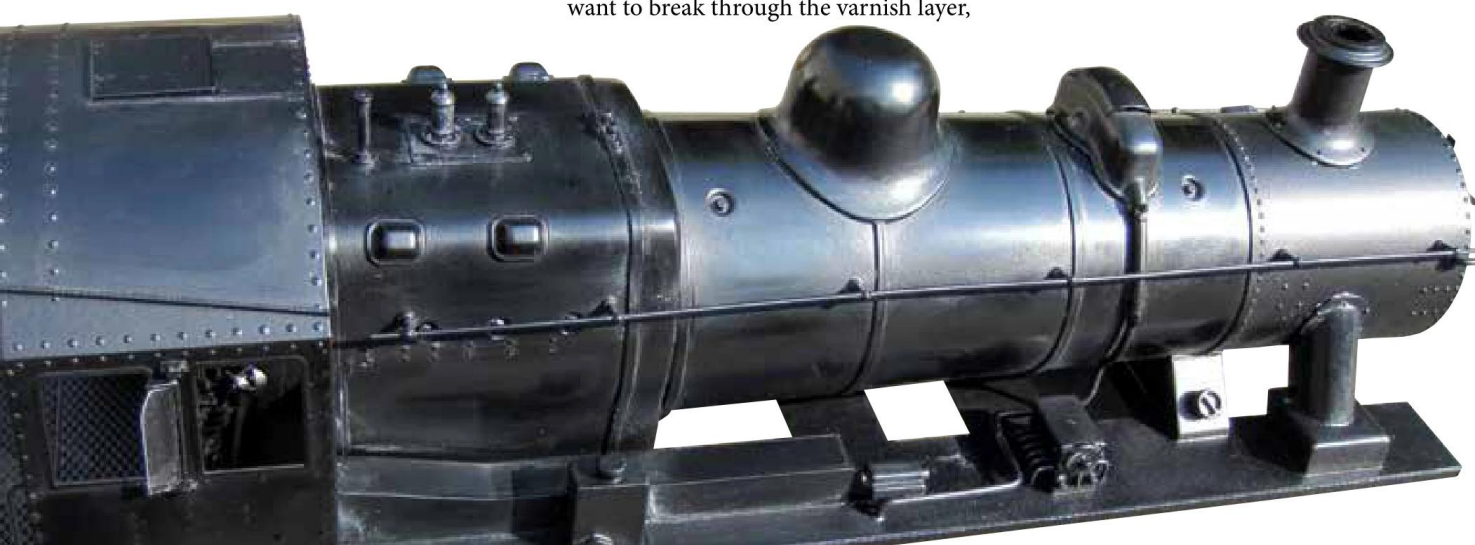
I find T-Cut extremely coarse and you can remove a great deal of paint that way, so I avoid using it.

If you try this process and your water turns a milky white colour, it's because the model has been varnished. Don't worry, the technique works well on varnish and creates the same effect. Go easy, though - you don't want to break through the varnish layer,



My favourite book

I find Martyn Welch's book *The Art of Weathering* an absolute and unsurpassed bible on the subject, even though most of it is in black and white! *The Art of Weathering*, Martyn Welch, Wild Swan ISBN 978-1874103110



Cut and polish



A few years ago I had a slight penny-drop moment with a little 1:43 Corgi Ford Pop. It was looking decidedly toy-like until I started treating it like a real car. It was all to do with the surface of the paint and the way the light was reflecting off the model that gave the game away. Paint when applied to models, even when done well, is comparatively crude. I experimented with cutting and polishing - a technique used on real cars when painted - and got favourable results. I carried this technique through to locomotives and this technique works best for me. It relies on the careful application of elbow grease rather than a high level of skill I don't necessarily have.



Real-world car polishing techniques were employed to prevent this Ford Popular from looking like a toy car.

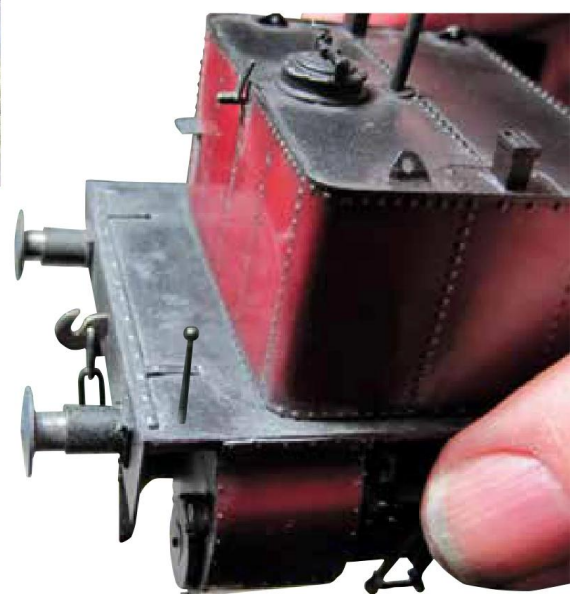
TIME FOR DIRT

Locomotive dirt is generated by the locomotive, the environment and track, and is partially removed by wind, rain, washing and cleaning. All these factors come into play when we choose how to weather our locomotives. I tend to build up a few layers, rather than just one weathering coat – even if the layers are very subtle. It adds to the depth.

The Garratt was reasonably well cared-for, but is fairly elderly and work-worn. The first treatment was working the boiler, cab and tanks with Winsor and Newton 'Lamp Black'. It's a water-soluble oil paint, which can be moved around with a damp brush or wiped off. When applied to a colour like maroon, it stains the paint, giving it a really nice aged quality.

I use it by brushing small quantities into cracks, joints, rivet lines, bottoms of panels, then wipe most away with kitchen towel – always in a vertical direction. It leaves dirty weathered streaks. Don't over-do it - you can always do more and it takes a day to dry. Enamel washes are a good substitute.

The chassis frames were stippled with a mixture of Humbrol Gunmetal Metalcote (ref.27004), Matt Black (ref.33), Tarmac (ref.112), with rust browns around the brakes. Talcum powder is added to texture the surface. For oily areas, a mixture of the black and gunmetal was worked into the wheels between the spokes.



I wanted a worn black for the plate-work, and my favoured finish is achieved by applying a few small dabs of Humbrol Metalcote Gunmetal, then swamping it in enamel thinners – thus floating the paint around the whole plate, and while still wet, spreading talcum powder all over. Allow it to dry off, brush all the excess talcum off, and polish the plate with a kitchen towel. This gives the effect of clean, but worn black paint, with steel occasionally showing through. Any rust can then be added either with paints or powders as required.

See more...

Visit RMweb.co.uk to see more of Giles' weathering projects.





Using talcum powder on objects can add texture - as demonstrated on this ashpan.

The ash-pan was comprehensively rusted using Humbrol Gunmetal paint and talcum as a foundation, followed by stippling with rust colours. The nickel-silver valve gear was toned down using Humbrol Polished Steel (ref.27003) with a dash of Gloss Tan (ref.9). Details like worn cab rails and wear added to steps were done using Polished Steel (ref.27003).

Copper pipe work was achieved with a mix of Metallic copper (ref.12) and Gunmetal (ref.27004), as unless copper-work has been polished recently it very quickly darkens - especially with hot water passing through it. Fittings, such as safety valves etc. were a mix of Metallic Brass (ref.54) and Gunmetal to darken it down.

Top tips

Here are Giles' top tips for the perfect weathered look...

- Flatten and polish paintwork
- Subtly pick out rivets and panel joints
- Paint and wipe away vertically to create layers
- Use talcum powder as a texture for rust and to matt drying paint

Giles' other weathering projects...



A dilapidated van body completes this rather forlorn diorama on 'End of the Line'. Note the worn faded lathering on the van body and formerly green rusty barrel.



It's not just the grass and weeds surrounding this bufferstop that make it an attractive layout feature in its own right - a multitude of rust stains complete the effect.



No rural scene is complete without a traditional farm gate. Farmer not included on this occasion. Note the various hues in the wood.



A realistic patina of two rust tones is applied to this collection of drums and canisters. A drooping rag adds an authentic touch.

WEATHERING MODEL TRAINS TOP TIPS AND TECHNIQUES



An example of a perfectly weathered OO gauge locomotive that helps make it look just like the real thing!

WE REVEAL TOP TIPS AND TECHNIQUES FOR WEATHERING MODEL TRAINS.

Weathering is a term used to describe the technique of replicating the visible results of wear and tear. When we think about our model railways we spend a great deal of time replicating the real world for the layout to look as realistic as possible. Therefore, weathering model trains is a very important part of the modelling process. It's something that modellers of all abilities can do themselves and once you have completed a few projects you will have the confidence to tackle anything. You'll soon be able to master a number of model railway weathering techniques.

Practice on old or unwanted items that aren't of any value: old locomotives, wagons, carriages or buildings. Your first attempts should be on light coloured models as it is far easier to see what you are doing.

Remember that once you start weathering, it is important that you apply it consistently across your layout. True, you may have a few items that exhibit little weathering such as a model locomotive that depicts one that

has just entered service or that is kept in pristine condition. However, doing things the other way round, and having one or two weathered model trains and the majority un-weathered, won't look right. Weathering is a matter of taste and you may prefer light effects or heavy effects, however, it is fair to say that model railway weathering can easily be overdone.

The good news is that there are many different model railway weathering techniques for you to utilise. All are capable of producing great results with a little practice. Whilst it is true that buying an airbrush can be a sizable investment to start with, it doesn't cost too much to run and other weathering techniques need very little in the way of expenditure. The investment is more in time than in consumables.

The Need for Observation

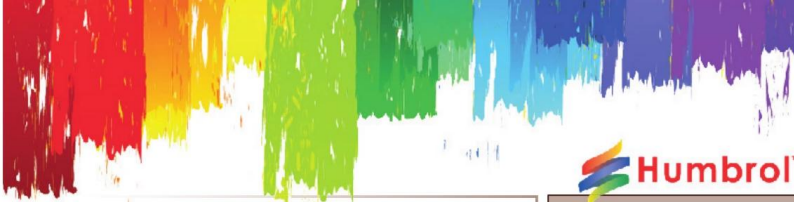
Since you are emulating the effects of the real world, it is essential to know how the effects build-up in the first place. Observation is your biggest asset and then


you just need the skills to replicate what you have seen. For example, rain will wash deposits from outdoor items and this will lead to streaks and accumulations in other areas. Similarly, items stood on the ground are weathered by the rain hitting the ground and splashing the lower regions with dirt. Look at the pots on a patio to see this.

When you are out and about, look for weathering effects and what has caused them. Then think about how you could go about weathering your model trains to replicate the effect.

This wagon has been weathered to include rust and dirt, just like many real wagons found on the nation's railways.





Sponsored by  Humbrol

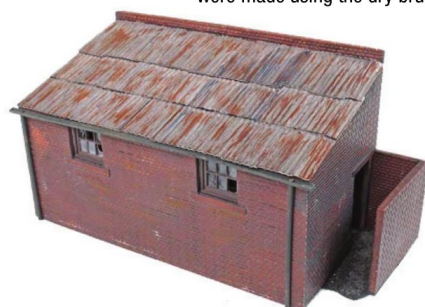
MODEL RAILWAY WEATHERING TECHNIQUES

There are many techniques for weathering model trains. Experiment and select the best method for your desired result. For example, you could first spray the model with a faded colour to tone down the whole finish. You could then add a wash to replicate dirt trapped in corners. To finish off you could drybrush colours to simulate missing paint on raised areas.

DRYBRUSHING



The vertical black streaks on this industrial locomotive were made using the dry brush technique.



The brown rust streaks on this corrugated iron roof were made using the dry brush technique.

What you need:

A paintbrush, a rag to wipe excess paint off and some paint.

Pros and cons:

- Only a brush and paint are required.
- Limited affects possible. Best combined with other methods, particularly washes.

Method:

Take a brush and dip it in your model railway weathering paint of choice. Now wipe most of the paint off onto a rag and drag the brush lightly across the surface to deposit small amounts. It does take practice to get the right balance between the amount of paint on the brush and the pressure to use when applying it.

You will find this technique particularly effective for highlighting raised surfaces. The technique isn't so good for producing fading effects on a large area as it is difficult to get an even finish. It's the 'hit and miss' action of this technique that is its strength.

WEATHERING POWDERS/PIGMENTS



The rust effects on this wagon floor were achieved by rubbing smoke, rust, sand and iron oxide weathering powders onto a matt black paint finish.

What you need:

Weathering powders/pigments, application tool (sponge tipped blunt tool)

Pros and cons:

- Very little equipment needed
- Cheap
- Can be removed easily if you make a mistake. A great technique for beginners
- Needs sealing afterwards with a varnish
- Only suitable for matt surfaces, so may need a preparatory coat of matt varnish

Method:

Your model will need to be clean for the weathering powders to adhere properly. This is likely if the model has had any use and has been handled. Washing with a mild detergent is a good idea first. If the item being weathered is a locomotive then separate the chassis to avoid getting the mechanism wet.

You need to consider the finish of the model. You will get the best adherence if the finish is matt. Gloss probably won't work at all as none of the weathering powder will adhere. If in doubt, spray the model with a matt varnish such as Humbrol Matt Cote. Don't spray moving parts – separate the body from the chassis beforehand or use a mask.

To apply the weathering powder, use a blunt tool such as a cotton bud. Even better, use a sponged tip tool – many weathering powder sets come with these as an accessory.

Give the paintwork an overall coat with a light colour to fade it and replicate the bleaching effect of the sun. Apply the powder to the application tool and rub it in lightly on the model using a gentle circular motion. Apply other effects locally. For example, if moss has been growing on a damp wall below a damaged water pipe, then rub the powder gently in at that point.



Most paint manufacturers make a range of weathering powders or pigments. One bottle goes a long way and only a few basic colours are required.

WASHES

What you need:

Brushes, paint and some thinners to match the paint used.

Pros and cons:

- Little equipment needed
- Cheap
- Limited affects possible. Best combined with other methods
- Good ventilation needed
- Can affect existing paintwork so care is needed

Method:

Washes are diluted layers of paint used to produce translucent affects and deposit paint into recesses. It is a good technique to combine with dry brushing.

Ensure the model is clean. Small accumulations of dust can be removed with a brush, but for finger marks and heavy accumulations of dust you will need to wash the model with a mild detergent. If the item being weathered is a locomotive then separate the chassis.

Deposit some of your model railway weathering colour into a small container.

Now add an appropriate thinner.

The amount to add will need some experimentation, but the greater the opacity the stronger the effect. I would use at least 50% thinners to paint, but might go as high as 90% if necessary. Remember that you can always wait for the affect to dry and then add a further layer.

Brush the wash over the model in a thin layer. You will find that the pigments in the paint tend to accumulate in the corners of detail. If there is too much of the underlying paint being covered then wipe off the excess with a cloth or cotton bud just leaving it in the recesses.

The one drawback to this method is that the thinner could disturb any paint or decals already on the model, therefore, you might like to test it first on an unobtrusive area. Don't overwork the thinner by brushing it more than necessary. If you know what paint was used in the existing layer then use another for the weathering layer.

HOW TO... ENHANCE AN RTR LOCOMOTIVE

Words & Photography: Michael Russell

Struggling to differentiate your RTR locomotive from the crowd? Michael Russell shares 18 swift transformational tips to improve your fleet.



Bachmann's 1F model is nicely finished, but from the box, is un-weathered. As such, it looks unrealistic and I wouldn't consider running it on my layout without some attention. Doing your own weathering is very enjoyable and straightforward if a few simple rules and techniques are followed.

This 1F locomotive is in its pre-grouping LMS livery which dates it to Era 3 – pre-1947. Up to the beginning of WW2, labour was plentiful and pride was taken by the crews in the locomotives they manned and the railway company they represented. Even a humble shunting/freight locomotive such as this would have been cleaned as part of its preventative maintenance. From 1940 until the end of WW2, little cleaning of locomotives took place.

I have endeavoured to weather the locomotive to a well-used, but cared-for condition. The basic method is to add

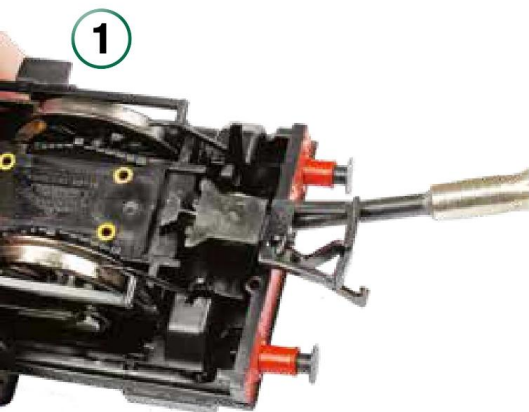
paint, then remove it, thereby replicating the action of dirt accumulating and being removed by locomotive cleaners.

The main problem when weathering is to find good reference material. Preserved locomotives are kept clean and photographs of locomotives from the earliest days until the 1960s are generally black and white, poor in detail and only show part of the locomotive. A locomotive out of use is of little help because it is subject to a different type of weathering. I would still recommend that you look at as much colour material as you can, as well as active preserved locomotives 'in the flesh', but you will have to rely to a certain extent on your experience, and draw on material from several sources, for any individual weathering project.

All the paints used are Humbrol enamel, except where indicated, and the numbers of the tins you need are indicated in brackets. ■

MICHAEL'S LOCOMOTIVE WEATHERING ADVICE:

- Good light is essential. Spray outdoors, in a glasshouse/conservatory, or close to a window.
- It's difficult to see how much paint is produced by your airbrush until it has landed on the model. So that you've got some idea, start spraying onto a piece of cardboard, then, holding the brush controls in the same position, direct the airbrush at the model. This is a situation where a 'lool roll' handle is useful.
- You will use very little paint when weathering, so only mix small quantities.
- Stop before you think you have finished – it's easy to overdo weathering effects. You can always add more if you revisit the locomotive at a later date.
- Keep your brush strokes vertical, never horizontal.
- Before using the locomotive, with everything dry, clean the wheel treads and current collection surfaces. Check that you haven't gummed up the motion and free it before use.
- Be careful using thinners around transfers – work on these sections quickly and don't press too hard.



1
Prise couplings off and store them safely. You may like to weather these separately if you plan to add them back to the locomotive at a later date.



2
I'm adding the cosmetic couplings to the buffer beams using superglue before starting the weathering.

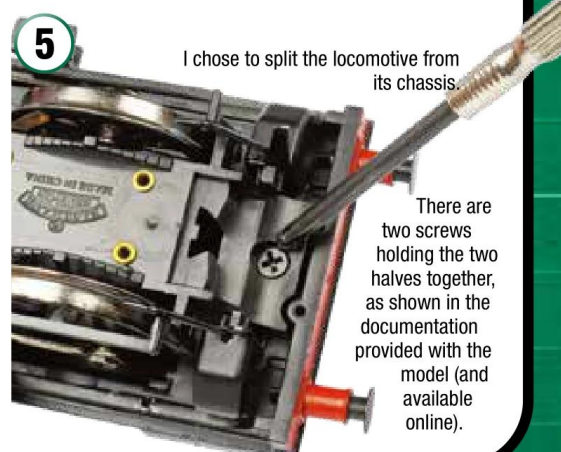


4
The crew came away fairly easily by twisting them using a pair of tweezers.

For different techniques visit www.brm1f.co.uk to read how Phil Parker weathered his own model



3
The next step is adding the canvas weather sheet to the cab roof using tweezers and superglue.



5
I chose to split the locomotive from its chassis.

There are two screws holding the two halves together, as shown in the documentation provided with the model (and available online).

BRM GUIDE TO WEATHERING

6



By using the cardboard tube from a toilet roll as a handle, I managed to avoid touching the body when spraying.

7



I removed the bunker by undoing the two screws underneath - be very careful here as the handrails are now exposed and are easy to bend out of shape.

8



Using the screws, I attached the bunker to a piece of cardboard to facilitate handling when spraying.

9



Brush the model with a soft brush to remove any particles of dust or debris.

10



Using an airbrush, spray a mix of Humbrol Matt Black (33), Leather (62) and Metalcote Steel (27003) onto the body, chassis and bunker. You'll only need a light coat. If you don't have an airbrush, apply a dilute mixture using a brush.

11



Before the paint has dried, use a cotton bud moistened with thinners to remove the paint wherever you can reach it. Work on one area at a time and change buds regularly as they become dirty. Mop up thinners from the model using a dry cotton bud. Be very careful to avoid rubbing too hard otherwise you will remove the transfers!

12

Use a soft dry brush and tweezers to remove particles of cotton stuck to the model.

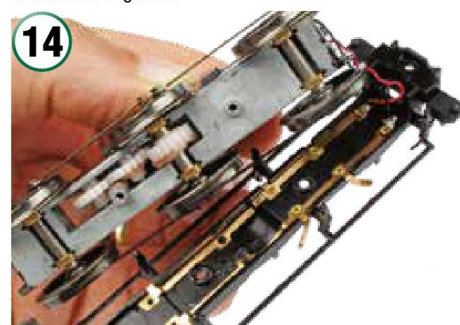


13



In the cab, wet a brush in thinners and move around the weathering sprayed onto the cab roof and backhead. Use a cotton bud soaked in thinners to clean the gauges, wheels and regulator.

14



Remove the two screws holding the baseplate in position and remove the wheels. Immediately put the two halves back together temporarily to avoid losing gears and prevent debris reaching the inner workings.



15

Apply black acrylic paint behind the wheels, and spring. You'll be able to see the outline of the wheel from the spray pattern left behind. Grind up a small amount of black and grey chalk using a file and daub this into the wet paint. Reassemble the wheels and fix the baseplate into position.

16



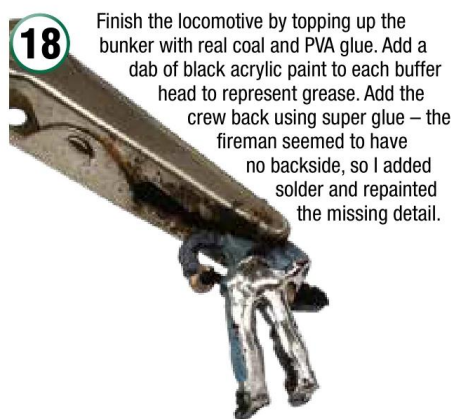
Thin acrylic black paint by 50% and paint this onto the cab floor. Apply more of the ground black chalk. Add a small amount of ground orange chalk to the firebox door. Reassemble the bunker to the main body.

17



Mix up a thin enamel wash of Humbrol Gloss Tan (9) and Metalcote Steel (27003) and apply to the coupling rods. Ensure that you don't add this too thickly and so gum up the motion.

18



Finish the locomotive by topping up the bunker with real coal and PVA glue. Add a dab of black acrylic paint to each buffer head to represent grease. Add the crew back using super glue – the fireman seemed to have no backside, so I added solder and repainted the missing detail.

TOP TIP:

Above the footplate the main source of contamination would be soot from the chimney and below it, dust from the brake blocks. Coal dust would affect the cab and bunker area and a general layer of dirt would be deposited on everything. Maintenance and provision of consumables would also influence the finish. Coal would be added to the bunker, water to the side tanks and oil would be applied to all moving parts on a daily basis. The smokebox would be emptied of char and the fire cleaned and periodically removed, through the firehole door on a locomotive of this age. Operating in such a dirty environment, steam locomotives never stayed clean for long.



HOW TO...

'DISTRESS' YOUR

SHOPPING LIST

TOOLS & MATERIALS

- I Superglue
- I Humbrol 7mm Stipple Brush
- I Humbrol 7mm Flat brush
- I Humbrol 3mm Flat Brush
- I Javis Nylon 000 Brush
- I Lifecolor LP01, LP02, LP03 weathering sets
- I Fox Transfers sheets F7214 Warning Flashes (pre-1998), FRH7020 Warning Flashes (Early) and FRH7949REV ('on-off' markings)
- I Heljan airpipes from Class 31 sprue (70031001)
- I Finescale Model World Modellers prep set.

CONTACTS

FOX TRANSFERS

W www.fox-transfers.co.uk

THE AIRBRUSH COMPANY

W www.airbrushes.com

HOWES MODELS

W www.howesmodels.co.uk

HUMBROL

W www.humbrol.com

FINESCALE MODEL WORLD

W www.finescalemodelworld.co.uk

DCCCONCEPTS

W www.gaugemaster.com

The great thing about modelling in O gauge at the moment is the number

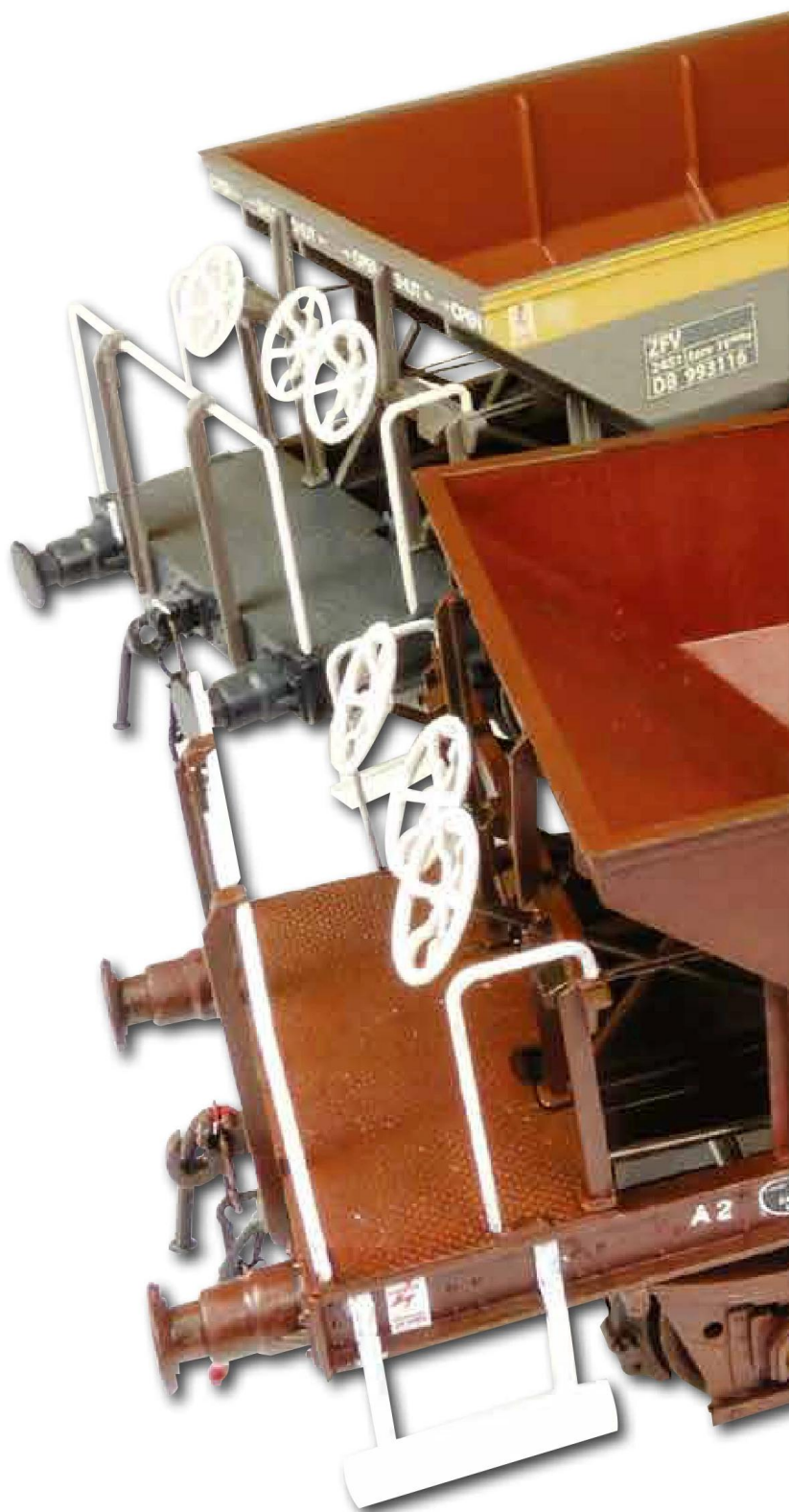
of new RTR products arriving on the scene. Never has the scale looked more attractive to those moving up from smaller scales.

An ever-increasing number of new locomotives appear from one year to the next, accompanied by wagon releases, all ready to use from the box. But, just as in smaller scales, ready-to-run models don't spell the end of modelling. Locomotives and rolling stock can still be improved with extra detail, repaints or weathering.

At the end of last year Heljan released its models of the 'Dogfish' ballast hopper. For my project layout 'Penmaenmawr', modelled on the ballast quarry location in North Wales, I'll need quite a few. I'm the first to admit that Heljan's attempts are more accurate than my kit-built efforts. They look just as they should, but when 'box-fresh', they're far too clean. Put one adjacent to one of my kit-built 'rust buckets' and they look like toys, however good they are.

Let's improve the realism of these wagons with some heavy weathering and make them look just as life-expired as they did in the mid-1990s. With two wagons in need of treatment, each in a different livery, I'm going to represent them in alternate states of cosmetic wear.

If you haven't used an airbrush before, don't be put off. The current BRM airbrush offer contains everything you need to get started. I've used all sorts of paint in the past, but I'm using acrylics more now because of the rapid drying time. These techniques are applicable to all scales, so get your brushes out and start making things look more realistic. ■



WAGONS

Howard Smith gives Heljan's recently released O gauge 'Dogfish' ballast hoppers a weather-beaten look.



There's something very satisfying about making items of RTR rolling stock your own. Heljan's 'Dogfish' hoppers are great models, but with a day or two's work they can be given unique personalities.



Starting with a Heljan O gauge model of 'Dogfish' DB993608 in olive green, this wagon is to be the candidate for some severe rust and grime.



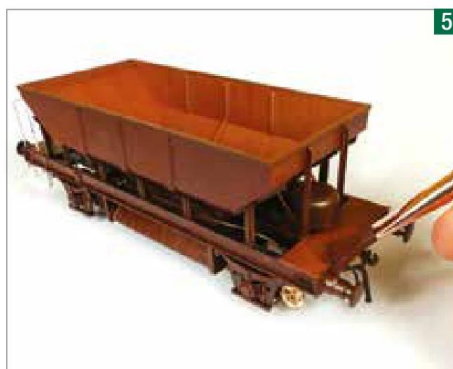
To weather the wagon I'm using a selection of washes from Lifecolor. Packs LP01, LP02 and LP03 will all be used. I highly recommend you buy a pack of each.



The first objective is to 'kill' the overall olive green colour of the wagon. I'm starting by applying a thin coat of LPW06 rust from the 'Rust Wizard' kit.



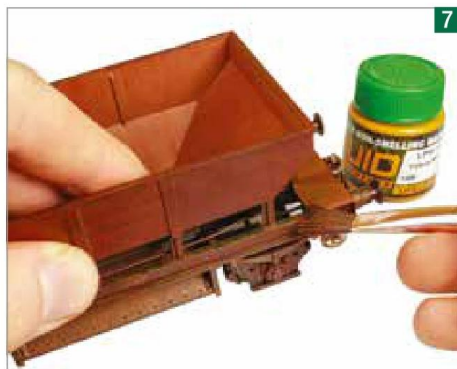
The insides of the wagon are painted a colour shade of 'Eroding dark rust'. Always paint in vertical lines in a downward direction, following rain streaks.



The advantage when painting with these acrylics is the fast drying time. No sooner is the base coat dry, than I'm applying a coat of LP08 eroding light rust as highlights.



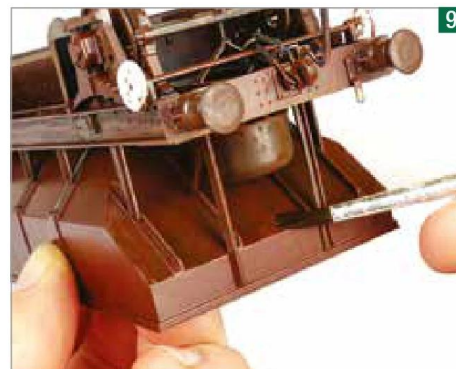
The exposed ends of the wagon are subject to more rainwater than dust, hence appear a different colour. These areas are given a coat of LPW10 yellow marks.



The same paint is blended into the sides so avoid a sharp colour contrast. Do this by wiping as much paint from the brush as possible and 'dry brushing' to fade.



Another good selection of acrylic paints for modellers is from Comart. When choosing colours, I look shade rather than brand. Acrylics paints will mix together.



Comart's shade of Fertile Soil is ideal for creating tones often seen in areas covered in brake dust and unwashed by rain, such as underneath the hopper.



This paint preparation pack from Finescale Model World contains lots of useful items when painting models. The fine grit paper is particularly good.



I'm using the fine grit to rub down the top layer of paint and create slight variations in undertones. Some of the olive green can be made to appear through if wanted.



Using an airbrush, I'm applying three shades of rust around the wagon - Deep and Eroding Dark Rust from Lifecolor and more Fertile Soil from Comart.



1. Areas rubbed back reveal the odd glimpse of the olive green. **2.** Darker rust shading reveals detail. **3.** Rust stains and patches are added with a fine brush.



A look inside the wagon reveals rust speckles. Reduce the airbrush paint flow until it spits, rather than sprays, using a contrasting darker colour.



The patch-painted sides are added using a mix of DCCconcepts black weathering powder and paint to obtain a dull 'chalkboard' faded look.



Footsteps, door wheels and axleboxes are painted and Health & Safety notice transfers are applied from Fox (see Shopping List) as this wagon is fresh from revision.



The TOPS code ZFW was given to a small number of 'Dogfish' with a through airpipe. I'm using a spare from a Heljan sprue, painted and superglued into place.



The other wagon, DB993116 in engineer's grey and yellow livery needs little treatment - I want it to look ex-works, but not like plastic. Let's alter its appearance.



Toning down the paint with the airbrush is easy. Dust Wash from Lifecolor is ideal to create a faded, yet subtle effect. The more you use, the more faded it'll look.

I ask the expert

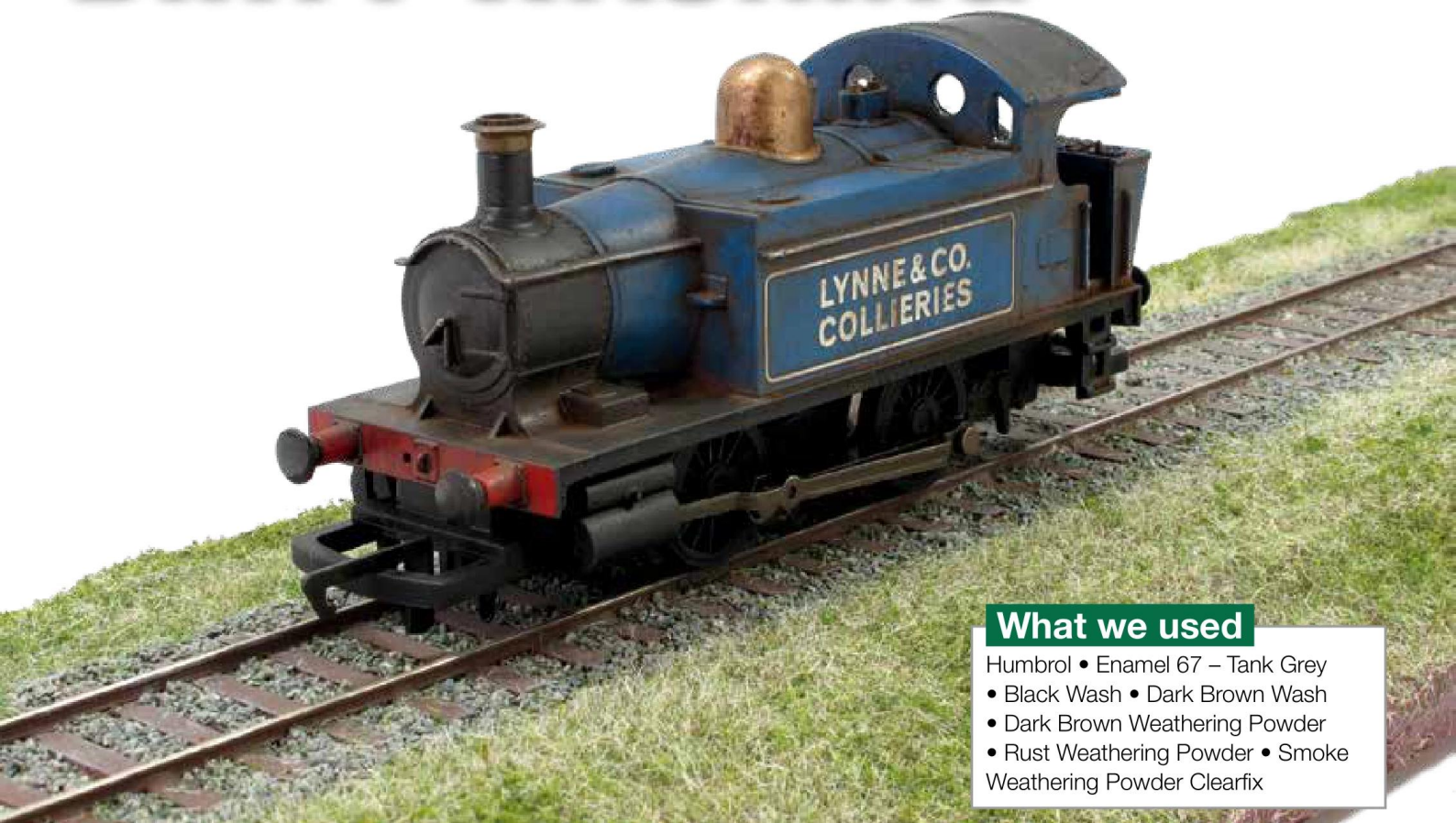
Q I am torn between weathering with a brush, an airbrush and weathering powders. Which should I use?

A It all depends on what effect you're trying to achieve. The techniques can be mixed and matched, so don't think about choosing only one. As I've demonstrated here, you can use all three. Weathering powders add texture to models - an accumulation of dirt on chassis for instance. Airbrushes are good for general effects - dust or rust for instance. A brush gives you more control - adding scratches, or painting fine detail.



Once fully dry, a coat of matt varnish is applied over both wagons to seal paint effects and transfers. This is essential as handling wears paint over time. I've shown two different levels of weathering. For the less brave who would like an easy project, look at the wagon to the left. I've even left the wheels clean as though it has had new wheelsets. For the more experienced, look at the wagon on the right. Why not make all your wagons unique? Rakes of rolling stock are bound to look more interesting if every wagon appears different.

DIRTY WASHING



What we used

Humbrol • Enamel 67 – Tank Grey
 • Black Wash • Dark Brown Wash
 • Dark Brown Weathering Powder
 • Rust Weathering Powder • Smoke
 Weathering Powder Clearfix

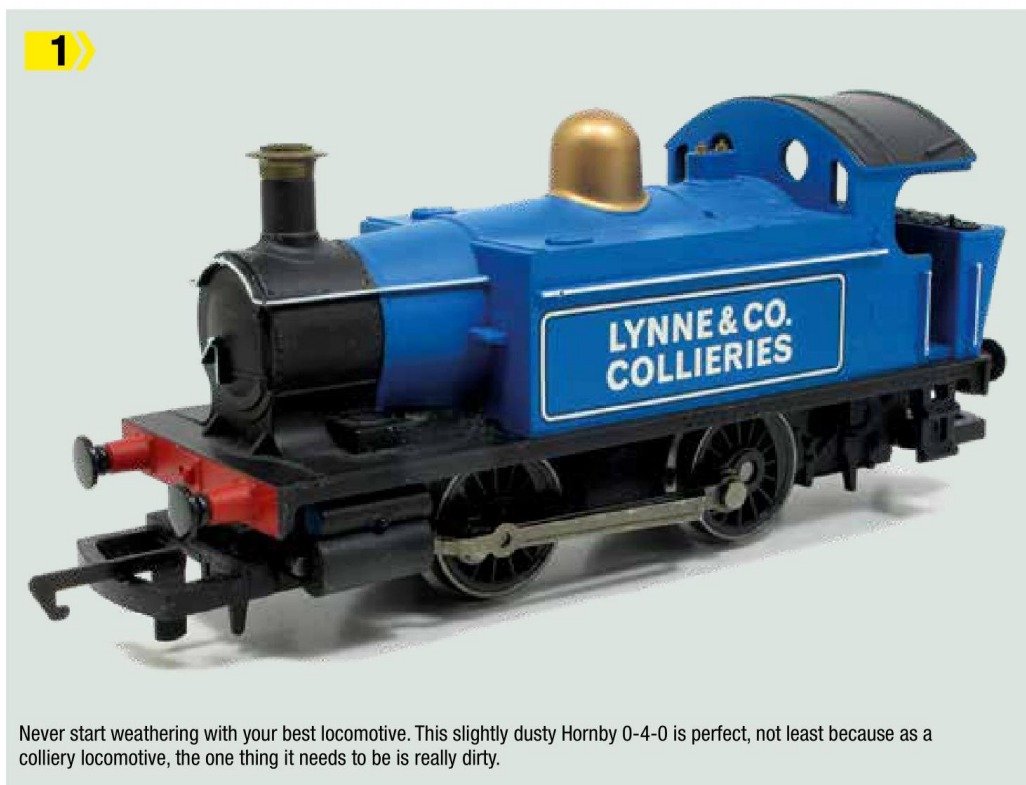
Phil Parker adds an authentic patina to a budget locomotive, using a selection of Humbrol weathering products.

Most model railways can look a bit characterless if everything's too clean. Grime highlights edges and emphasises detail and any layout will look more realistic with a bit of it.

In 1962, Tri-ang commissioned the famous artist Terrance Cuneo to weather a locomotive for its 10th anniversary book using artists' oil paints. Adding dirt to a model is no longer the preserve of the art world and we have access to products that make the job much easier.

For this project, I'm keeping things simple by using items from the Humbrol range which can be found readily, sometimes even on the high street. The weathering powders are especially good as they seem to stick to models really well.

My project model is a simple 0-4-0 locomotive, the lowliest model in the Hornby range. Despite this, it looks pretty good, and very different, with a bit of dirt. There are plenty of these models on second hand stalls so grab one and give it a go. ■



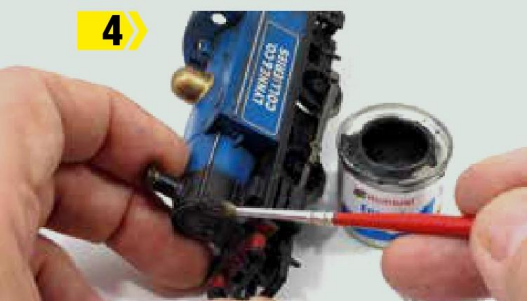
Never start weathering with your best locomotive. This slightly dusty Hornby 0-4-0 is perfect, not least because as a colliery locomotive, the one thing it needs to be is really dirty.

**2»**

Paint the shiny edges of the wheels a colour to match the wheel centres. Ideally you should prime the metal first, but I find matt black enamel sticks pretty well and if it does chip, touching up is easy.

3»

Dirt gets into the nooks and crannies on a real locomotive, so start with a coat of weathering wash, wiped off with a paper towel to leave residue in all the corners. Wipe downward to simulate the effect of rain washing the dirt away. Use black for the top where soot falls and brown everywhere else.

4»

Not an essential step, but I like to dry brush the black parts with No.64, Tank Grey, to highlight the rivets and tone down the white handrails. Use an old brush, pick up paint, then wipe most of it off on a cloth. Then work the brush over the model, and paint will be dragged from the bristles on raised detail.

5»

Scrub weathering powders over all surfaces, especially the footplate. Start with sparing use of rust colour followed by generous amounts of dark brown. Finish with soot on the top surfaces. The powder gets everywhere so put paper down to keep your work area clean.

6»

If you don't like the results, try a damp cotton bud to clean some of the surfaces. If all else fails, remove the body and scrub it in the sink. Obviously don't do this if the model has lights or other electrical details, but the 0-4-0 is as simple as they come and the body will survive a swim.

7»

The finishing touch is to glaze the spectacles plates by waggling a blob of Clearfix in each opening until it forms a skin across the hole.



Which brushes?

I've used a tatty selection of brushes for this project. Washes are applied with a large old brush, too far gone for proper painting. Dry brushing ruins the bristles so another old brush for that job. Finally, Humbrol stipple brushes are perfect for putting on and taking off the weathering powders. The cotton bud is for cleaning up powder that needs to be removed.



HOW TO GIVE...

YOUR

HORNBY SENTINEL

A PERSONAL TOUCH

If you have one of Hornby's new Sentinel diesels, here's an easy-to-follow guide to personalising your model in just two hours!

One of the most eagerly anticipated Hornby models to have been announced last year was the little Sentinel 4wDM shunter. Widely available for less than £50, the model is likely to be a big seller and you can be sure that there will be an awful lot of layouts gaining new private sidings operated by these brightly coloured locomotives.

This is good news for Hornby, but it means there a lot of identical locomotives out there. How can we personalise a model so it's not the same as the one running on your mates' layout?

Modellers on RMweb started tinkering with their models almost as soon as they got them home. The prototype offers loads of potential but if you've never dared work on a locomotive

before, where do you start?

The first job is to look at the prototype. My base model is *Cattewater* in bright red Esso colours. The livery is based on a preserved locomotive and is a prettier version of the paint job the same prototype wore in industrial service. Among the changes are the yellow axlebox covers now painted black (interesting that the pre-production model had this feature) and the wheels originally a dull red, now black.

The truth is, unless you are modelling a very specific prototype, you have a lot of leeway on the details. Industrial diesels were been

maintained within the factory site and 'bulling up' wasn't uncommon for special visits and open days. Thus, if you want yellow axleboxes, you can have them.

Since this guide is aimed at novices, I haven't used my airbrush. As I write, it's too cold and wet to work with it in my garage anyway so I'll stick to a little paint and weathering powders when adding dirt.

If you have spraying facilities, a light mist of mucky brown over the model would be a good start but don't forget to mask the windows beforehand.

Talking of dirt, this varied depending in what environment the locomotive worked. Most machines

The prototype offers loads of potential but if you've never dared work on a locomotive before, where do you start?

BEFORE YOU START



Do a little research online or at the library. There are lots of photographs, many of which you can find linked to discussions at www.rmweb.co.uk.

STEP-BY-STEP GUIDE



0-10 minutes

On the outside edges of the bufferbeams are lifting rings which need to be drilled through to leave a 1mm hole. This is a diecast part so a sharp bit is required. A pin vice is safer than a power tool as you don't want to drill into the buffer housing.



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Humbrol

ONE WE
MADE
EARLIER



slowly turned brown and grey but those used in the china clay industry gradually gained a thick white patina that would be easy to represent with talcum powder.

Apart from drilling out the lifting rings, the model doesn't really need much detailing. The most obvious improvement would be to replace the glazing. Scratch-building replacement parts is possible but you'd have to be very good to do a better job than the supplied items. However, Shawplan intends to produce a Laserglaze pack in the future so this should solve the problem.

For a modest purchase price, this could be the ideal locomotive for your first weathering exercise or even a full repaint. Whatever you do, enjoy it. It's a handsome looking model and a little dirt just gives it some character. **BRM**

STRAIGHT OUT OF THE BOX

The Hornby model is based on a Sentinel diesel preserved on the East Somerset Railway. As such, there are a few livery differences from the locomotive in service. The main difference being that the red paint hasn't yet faded to pink!



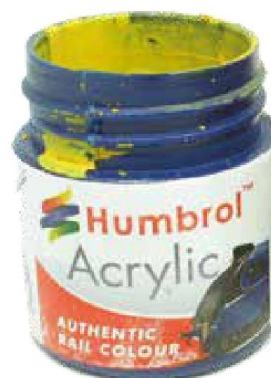
BLANKING THE COUPLER HOLE

For anyone not using the NEM coupling sockets, Hornby provide blanking plates to fill the bufferbeam holes. These plug in to the sockets but really need to be glued in place and then filled to avoid a gap around the edge.

Don't do this until you are certain you no longer need to remove the body as the screw that holds the small hood on is under the coupling.

Either that or modify the plate so it is just glued in place.

Three-link chain is available from several suppliers. I've used some from the EM Gauge Society, hung on the Hornby hook.



10-20
minutes

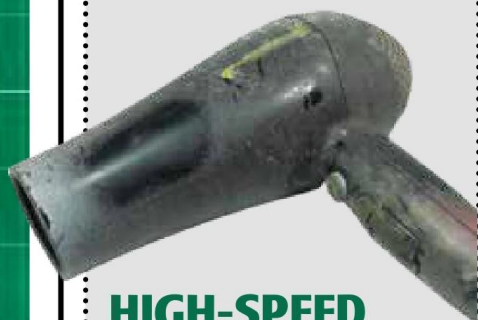
'Wasp' warning stripes should carry around the edge of the bufferbeam but can be added with yellow paint. For speed I'm using acrylic and I also painted the axleboxes and the filler around the coupling blanking plate.



PLEASE
TURN OVER
FOR MORE

PRACTICAL BRM 2-HR CHALLENGE

TOP TIP



HIGH-SPEED WEATHERING

Weathering a model shouldn't really be rushed. In an ideal world paint must be given sufficient time to dry fully or it's easy to lift one coat away by over-painting it with another.

If time is short, there are a few 'tricks of the trade' you can use:

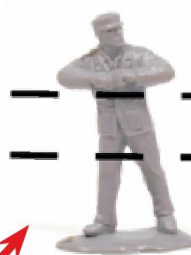
- Acrylic paint dries faster than enamel
- An old hairdryer will quickly make paint touch dry. If you hold the model in your hand, your fingers will tell you to put it down before you risk melting anything, no matter how high the heat setting.
- Weathering powders work wonders - many modellers use them exclusively and of course, there is no drying time.



20-60
minutes

Above Removing the body involves undoing a screw underneath the model and unhooking the front handrails. The cab interior is quite bulky to cover the DCC socket/decoder and is moulded in blue plastic. Photographs appear to show it as a pale colour, either grey or cream. Picking out the desk in this and the rest with matt black looks better. While you have the black to hand, the sandbox fillers in the side should also be this colour.

Right A Dapol workman suitably altered fits the cab well. The driver was sat so he could see backward and forward easily, as shunters spend as much time going one direction as the other.



File half the depth of the body away below here
Cut away the legs below here



60-75
minutes

With the bonnets out of the way, dry-brush the chequerplate with silver paint. This seems very bright on the preserved loco although in service it would be tarnished. After this, re-assemble the model.



75-90
minutes

Emphasise all the panel joints with thinned track colour. Place the brush in the gap and let capillary action draw the paint from the bristles. If you've thinned it enough, it will quickly flow along the joint. Do the same for the corners and anywhere dirt collects on the prototype.

90-115
minutes

Dust the model with brown and black weathering powders using vertical brush strokes. I work over a plastic tray and let the colours mix up to provide different shades of dirt.





90-115 minutes

The bufferbeams really need a thick build-up of dirt but are too smooth for the powder to cling to. A shot of cheap hairspray will make them stick. If you overdo the effect, a wet cotton bud will clean things up.

Finally, the buffers should have a smear of grease in the centre. A soft pencil rubbed on them will represent this perfectly.

115-120 minutes

COLOURS USED

Humbrol Acrylic

- BR Matt Yellow (RC407)

Humbrol Enamel

- Camouflage Matt Grey (28)
- Matt Black (33)
- Matt Track Colour (173)
- Aluminium Metalcote (27001)

Humbrol Weathering Powders

- Smoke (AV004)
- Dark Earth (AV007)

MIG Weathering Powders

- Eroding Burnt Rust (PG107)

SENTINEL REVIEW



Read BRM's in-depth review of the Hornby Sentinel Shunters in our March issue. Download this issue now!



www.pocketmags.com/BRM

FINISHED MODEL

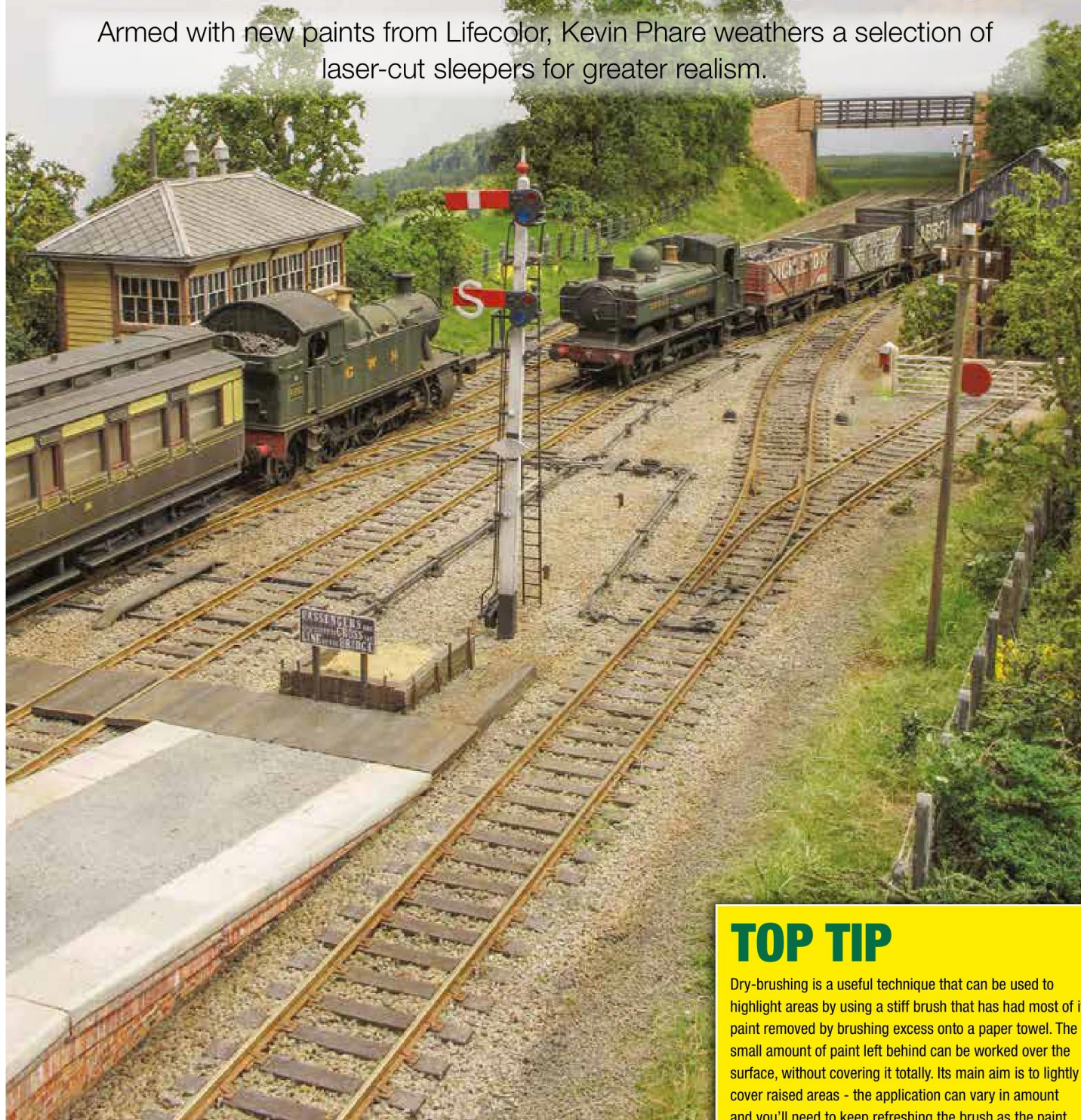


Useful Websites

- East Somerset Railway: www.eastsomersetrailway.com
- T Dalton (Doddle Bug) photos: www.flickr.com/photos/38513468@No4/ (Photos of the preserved locomotive)
- Paul Bartlett's Photographs: paulbartlett.zenfolio.com (Photos of the working locomotive)

HOW TO... MAKE YOUR TRACK MORE REALISTIC

Armed with new paints from Lifecolor, Kevin Phare weathers a selection of laser-cut sleepers for greater realism.



TOP TIP

Dry-brushing is a useful technique that can be used to highlight areas by using a stiff brush that has had most of its paint removed by brushing excess onto a paper towel. The small amount of paint left behind can be worked over the surface, without covering it totally. Its main aim is to lightly cover raised areas - the application can vary in amount and you'll need to keep refreshing the brush as the paint disappears quickly by drying and with use.

ScaleModelScenery has a range of laser-cut wooden sleepers in OO gauge with a choice of two-, three- and four-hole patterns. The hole pattern was made by the type of chair used, and this depended on the railway operator who laid the track. After doing some research, and to clarify and help those trying to decide which ones to go for, I discovered that (LX080) four-hole sleepers are suitable for the Midland, GER and certain companies in Scotland, (LX085) three-hole sleepers are suitable for LMS,

LNER and BR regions and (LX084) two-hole sleepers are suitable for the GWR. This gives a good idea of who used what, but, as ever, there will be instances where there are exceptions to the rule.

First, remove the sleepers and clean the minimal amount of fret excess used for joining the sleepers, which needed a sharp knife and a little filing. There is nothing else of note because these are beautifully crisp and well-cut.

I used the Weathered Wood and Rail

Weathering sets from Lifecolor. These are by far the most-used paints on my layout and have many other applications, other than what it says on the box! At first glance the sets appear expensive, but they seem to keep going, making them cost-effective.

The following set of photographs illustrate how I made these detailed sleepers even more realistic, but the techniques can be applied to other scales, too.



To assist, I fixed a selection of sleepers with Blu Tack (or similar) to a piece of wood for ease of holding and painting. I turned some over to the reverse side for a bit of variety.



A coat of Lifecolor Warm Base Shade was applied to all visible areas. Wood is a porous material that is easily painted, and the paint has a tendency to settle into the grain, creating a realistic effect.



A coat of Lifecolor Cold Light Shade was dry-brushed over to highlight raised areas and edges. It also helps to cancel the very dark colour, previously applied in some areas.



I applied Lifecolor Roof Dirt next, adding a dirty effect to the sleepers using a dry-brush application, but applying it liberally.



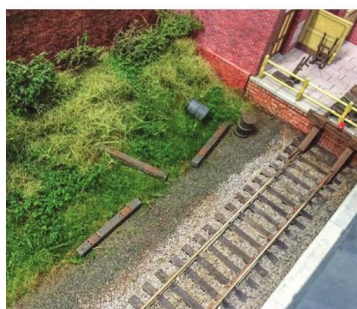
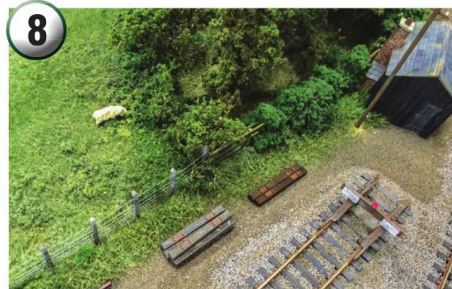
Finally, another dry brush coat of Lifecolor Sleeper Grime was applied, especially at the edges and ends.



With all the layers of paint dry, I left the sleepers for about an hour. A wash of rust colour was added to the recess/bolt hole areas using paint from the Vallejo range, diluted with water and left to run around the recess and holes. I added an additional coat to thicken up the colour, particularly around the holes to represent rust left by the chairs when they were removed from the sleepers.



A few of the sleepers are a different colour in an effort to introduce changes that could occur in their manufacture, supplier or even age of the sleeper. I used Carr's Sleeper Stain, applied by brush to four of the sleepers.



These photographs show where I've placed the sleepers around my layout, 'Little Muddle'. I want to add more detail, like chairs, fishplates and other items that were often stored trackside, too.

ENHANCE YOUR RTR WITH TMC

Chris and Alex Yates of The Model Centre emphasise particular effects they seek to create when weathering a locomotive, to make your layout more authentic.

BUFFER GREASE

Over the years, our technicians have developed this technique and interpreted pictures to develop a realistic-looking buffer grease effect. We can actually tell which of our technicians has weathered something, just by the buffer grease!



PROFESSIONALLY-FITTED ETCHED NAMEPLATES

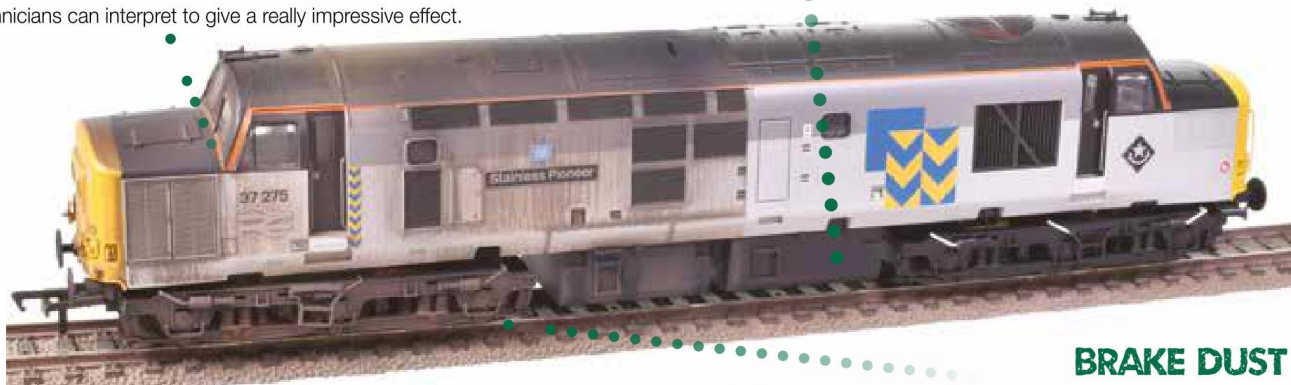
This is definitely a skill you master after many mistakes. To apply nameplates level, in the correct location, without glue spilling out from underneath and without traces of the fret they have been removed from requires a steady hand. If the locomotive has been repainted, it can be an expensive mistake if it goes wrong!

OUT OF SIGHT, OUT OF MIND?

It's actually very common for TMC to weather the underneath of models. As many models are now detailed underneath, too, it's nice not to ignore this area.

WASHER FLUID STAINS

The route the over-sprayed washer fluid takes as it leaves the windscreen can create a distinctive pattern, which our technicians can interpret to give a really impressive effect.



BRAKE DUST

Even if you're going for a light or value weathering, brake dust is something that will always feature as it's an unavoidable waste product as these huge heavy machines try to slow their huge train! Obviously this doesn't actually happen on the model, but that's why we're here!

ROOF EXHAUST PORT

We've all seen the cloud of smoke that comes out of a diesel after a cold start. So it might not come as a surprise that a lot of the exhaust particles find their way onto the roof of a locomotive. Depending on the class of locomotive and difference forces at play, exhaust dirt can present itself in many different shapes and sizes!



VARNISH SEALED

Every locomotive that leaves the TMC workshop has been varnish sealed. This helps avoid oil staining, which can get underneath weathering and weaken the finish. It also preserves models for when they are handled or being shipped. Matt, Satin, Gloss or a blend or mixture is used according to the final finish required.

WINDSCREEN WIPER SWEEPS

This effect represents a clear distinction between the dirt at the edge of the windscreen and the clean area where the wiper has operated. This is a really nice finishing touch that we apply to Custom Deluxe locomotives, although you will see it in our standard Light, Medium and Heavy weatherings occasionally. Every class of locomotive has a different sweep pattern and we make a unique wiper sweep for every different class.

TUMBLEHOME

This area is nicely represented showing the effects of wind on body side from water subject to air turbulence. We try to use prototypical effects rather than guess where rust and grime might appear. Highlighting aesthetically-pleasing prototypical grime is something we particularly enjoy.

STREAKING ON THE SIDES OF THE LOCOMOTIVE BODY

This effect is some of the most impressive and intricate we offer on models, and can give a really impressive finish. It represents dirt and grime on the sides of locomotives that has been subject to either high speed wind, extensive water streaking, or perhaps bits of the locomotive that the washing plant wouldn't have reached.



BOGIE GRIME

We can use up to eight different shades of browns, blacks, rusts and other colours to give an eye-catching appearance that will leave you wondering if this is a model or the real thing. Look at the bogie from a different angle and you might move more colours into view - just as you would expect if you were inspecting one in real life.

SPECIAL OFFER

Spend £200 or more on TMC's Value Weathering in a single order and we'll arrange collection of your models free of charge from your home address, as well as deliver them back to you, completely free! If you take up this offer, you'll also be entered into our competition to win a free locomotive of your choice from our website, worth up to £150.00. If you see a locomotive that costs more, you can opt to pay the difference.



Q&A with Grimy Times

We've collated your weathering questions from RMweb and put them to Steve Johnson, owner of Grimy Times model shop. Here are his solutions to your common problems.



Weathering isn't difficult to understand, but getting it right if you decide to give it a go yourself can be far from easy. Where do you start, what products should you use, and how do you replicate dust and mud? These are all common questions for beginners.

We caught up with Steve Johnson at Grimy Times for insight on what you can expect when you start out weathering your locomotives - a lesson on the importance of getting the basics right.

BRM: Enamels or acrylics – which is better?

Steve: There is no definitive answer to this as it is mainly down to personal choice. Both have advantages and disadvantages. The drying times of both media can work for and against you - acrylics can dry very quickly within your airbrush, requiring a full strip down and clean if left even for five minutes, whereas enamels take much longer.

I tend to find enamels the best to work with but you need to bear your choice in mind when choosing your equipment, as you will be using solvents to clean up. A proper extraction spray booth and quality face mask are imperatives. You cannot put a value on your safety. Acrylics are not as strong-smelling as a rule so that might be an advantage if you don't have a work area separated from other family activities.

BRM: Can weathering powders be used on their own or is paint always needed as well?

Steve: Although weathering powders/pigments can be applied to a pristine model, the bulk of them will wear off with handling unless sealed with a fixative. The best way, if you are using powders, is to varnish your model first and let it dry. That way your powders have something to adhere to. Powders can be mixed with paint/PVA glue to give texture. If you mix them, don't use

much paint. What you're after is a drier mix which is useful for stippling rust effects. I always finish my models with powders after the airbrushing processes are done as it gives textures you cannot get by airbrush alone, and it brings your model to life.

BRM: Does weathering have an impact on locomotive resale values?

Steve: Weathering, if done well, can certainly enhance the value of a model but you will find that you will have a much smaller market place for it, because many like to keep their models pristine. However, a poor job will reduce its value.

If you are considering having a go, the best way to start is to buy the cheapest second-hand items you can and use these to practise on before going on to your expensive models. If you have any doubts in your capabilities, it might be worth paying to have it professionally done. That's a lot better than ruining a model which has cost you a lot of money.

BRM: Where do you draw the line? How do you know when to stop weathering?

Steve: Ideally you need to have a picture in your mind of how you want the finished article to look. Another good way is to study prototype pictures of the item you are working on. If you are unsure of what you have done, walk away and come back to it with a fresh pair of eyes as most processes can be removed if you are not happy with them. You will be quite surprised, when you start looking at pictures of how varied and extreme some weathering is; there is a prototype for most things!

BRM: What are the most common mistakes people make when weathering at home?

I think that a lot of the answers are in the previous two questions. It can be easy to carry on weathering until it is overdone..

A lot of the time, less is often more on the finished item. Subtle touches can be very effective, like limescale, water spillage, etc. A lot of people tend to go over the top on rust effects, making the model look like a resident of a scrapyard rather than a neglected working locomotive. Again, study prototype pictures and practise techniques and know where to draw the line.

BRM: Is an airbrush a necessity?

An airbrush isn't a complete necessity as many outstanding models have been created with dry-brushing, powders or washes. However, they are invaluable for building up varying layers of different colours and repaint jobs, as only the best brush painters would get the level of finish of a sprayed item. If considering buying an airbrush, buy the best quality you can afford as you get what you pay for, and don't just leave it in the box. You need to use it to develop your skill, as I hear so many people say they have got one but are frightened of using it!

BRM: How much artistic licence do you allow yourself on weathering projects?

I always have a picture in my mind of how I want the finished article to look, whether that's a customer's locomotive or one for stock. Obviously, if a customer has supplied a picture of an item, your parameters are set by the picture. As my business has been built on repeat custom, you get to know what your customers like/dislike and meet their requirements in that way. I am never frightened of trying out new methods. Not only that, a lot of good effects can be achieved from making mistakes!

BRM: What's the hardest thing to replicate and how – dirt, rust or fading?

All of these effects bring their own challenges. The key to success is restraint

and taking your time with a goal at the end of it. Remember, study pictures of the real thing and don't get carried away!

Your questions answered

• I've always thought that models that have been 'heavily weathered' just don't look as realistic as more lightly weathered examples. I'm aware of colour scaling effects - do similar rules apply with weathering?

Steve: You can find a prototype for most things using prototype photographs. Some locomotives got a lot dirtier than people tend to realise. The key to a realistic group of locomotives is variety in the styles of weathering. A finish which is extremely popular with my customers is a shed-cleaned look or oily rag finish. Colours sometimes don't scale down in the correct shade, so you often need lighter or darker tints/shades of the colour you want to get the same effect. Lighting can also have an effect on the colours used as well, especially the different lighting temperatures of LEDs or fluorescent tubes.

• I'd like to know how to deal with wagon roofs, especially a shiny new 'out of the box' van with a perfectly smooth roof?

Steve: There are varying ways of achieving this, from a plain air-brushed finish which can be enhanced by rubbing sooty weathering powders/pigments on to the painted finish to give textures. A more extreme way is to score some planks in patches on the roof, which are then painted a worn wood colour. Then, when dry, cover these patches in Humbrol Maskol and paint the complete roof. After the roof is dry, remove the Maskol with a pair of tweezers and you will have the effect of the roof's canvas finish being worn away in patches, revealing the planking underneath. Again,

this can be blended in with powders/pigments.

• I'd be interested to know Steve's method for reproducing faded paintwork on locomotives and rolling stock. I'm keen to try the "dot technique"

Steve: There are a few ways to fade paintwork down. One is washes of a lighter shade of the painted colour. However, if you are happy using an airbrush, the best way is to lightly mist over your item with white, and then slowly build up the level of fading you require. This process is better being done, along with the wash method, as the first step of your weathering process. You can give a totally different look to your model with fading, as some colours, especially the likes of BR Blue, are notorious for fading.

• Besides cleaning the body of a locomotive, is there a barrier that one can put down to prevent the oil discolouration or should you use acrylics? I prefer enamels as they take longer to dry and are better to work and move around surfaces.

Steve: If oil is showing on your model before you start the weathering process, it's important to remove it with a de-greaser on a cotton bud. After weathering with the airbrush, all my models are coated with a matt or satin varnish before other detailing (powders, water, oil stains, etc). Doing this should stop discolouration as well as give a base for pigments. I only use enamel paints and varnishes, because I feel they are much harder wearing.

Hopefully you'll be able to progress your techniques. Share your efforts with **BRM** - send an email to brm@warnersgroup.co.uk.

A Bachmann SR 'Schools' No. 30852 *Sir Walter Raleigh* after passing through Steve's weathering booth. With time and patience, you can create great effects such as these, too.





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O gauge	POA	POA	POA	£4	-	-

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USING WEATHERING POWDERS

Weathering powders should be considered a useful tool when creating realistic models, though not the sole implement. I find the use of powders over pristine paint to look out of place because their coverage can be thin. Weathering powders work best over a matt paint finish, hence if used on an RTR model, I'd advise a little airbrush work beforehand. Consider powders as a semi-permanent form of weathering. They will stay in-situ if left alone, but must be sealed if you intend to handle the model. Buildings aren't much of a problem, but locomotive, coach or wagon sides should ideally be sealed with a quick spray of matt varnish paint.

1



particulates, brake dust or track dirt. Only apply a little powder to an old brush, testing on a piece of tissue before you touch your model.

This building was painted using Lifecolor acrylics on the May 2019 episode of BRM TV. You could leave this building as it is, but weathering powders are particularly good at depicting an accumulation of dry dirt. This might include chimney smoke on buildings or locomotives, diesel exhaust

2



Working with weathering powders is a messy job and a great deal of what you apply to your model won't stick permanently as you work your brush over it. Holding a container underneath prevents waste and will allow you to re-use it at a later date.

3



Avoid applying too much powder at any one time. Stand back from your work and check it before applying too much. Providing you haven't permanently fixed it with a matt varnish, you can wash the majority of powders from models under a tap with water and an old toothbrush if you're not happy with the results.

4

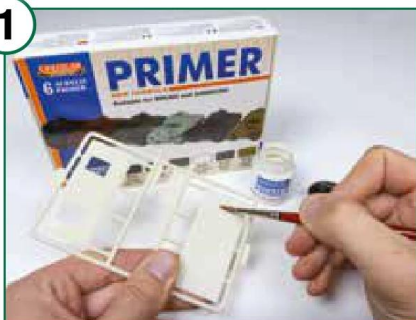


I regularly mix weathering powders with paint to add texture, or change their colour. Mixing DCC concepts' red oxide powder with Comart's Dry Rust produces an excellent thick matt colour for the painting of bricks; particularly effective when dry-brushing. Alternatively, powders can be mixed with white spirit to create custom washes to fill panel lines to depict a dirty object that has been subjected to rainfall.

BRUSH PAINTING

You dip your brush in a tin of paint, then rub it up and down your model – simple, right? Not if you want a good finish on your model. Painting models isn't like painting emulsion on your walls at home. The model must be clean, the spread of paint must be even and the way it's applied must be methodical. Many a model can be brush-painted, though with the latest RTR models having such an excellent finish, it is best respraying these with an airbrush if a repaint is required.

1



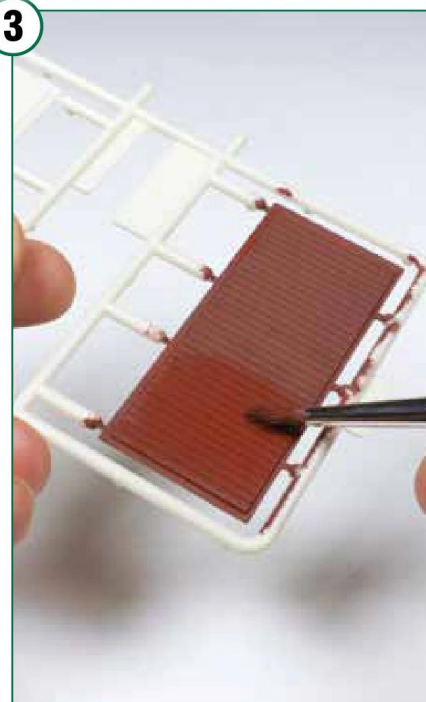
Applying paint directly to a plastic or brass model without first applying a primer is never advised because the paint can be easily chipped or scraped away with a fingernail afterwards. Apply a primer that is specific to your material, such as an etch primer for brass, either filler or standard primer for plastic or a sanding sealer for wood. Work a brush with soft bristles up and down the piece, following the direction of contours. Never apply too much paint with any one application, use multiple thinner coats instead.

2



The chemical structure of different paints means that they can react with each other. As a rule of thumb, use the same type of paint from the same brand when painting a project. For enamel paints, branded thinners are recommended for best results, though if you want to use a white spirit to dilute paints, test on an inconspicuous area first. Keep a small piece of material to hand and paint or spray each of the layers in turn that you would do on your model. At least if a reaction occurs, it won't be on your model.

3



Top coats can be applied before the primer has fully cured to increase the bond between the two layers of paint, though in the case of solvent paints, a few days might be required before the primer is ready to be coated. Ensure an even coverage of paint, avoiding brush lines.

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Medium Weathering



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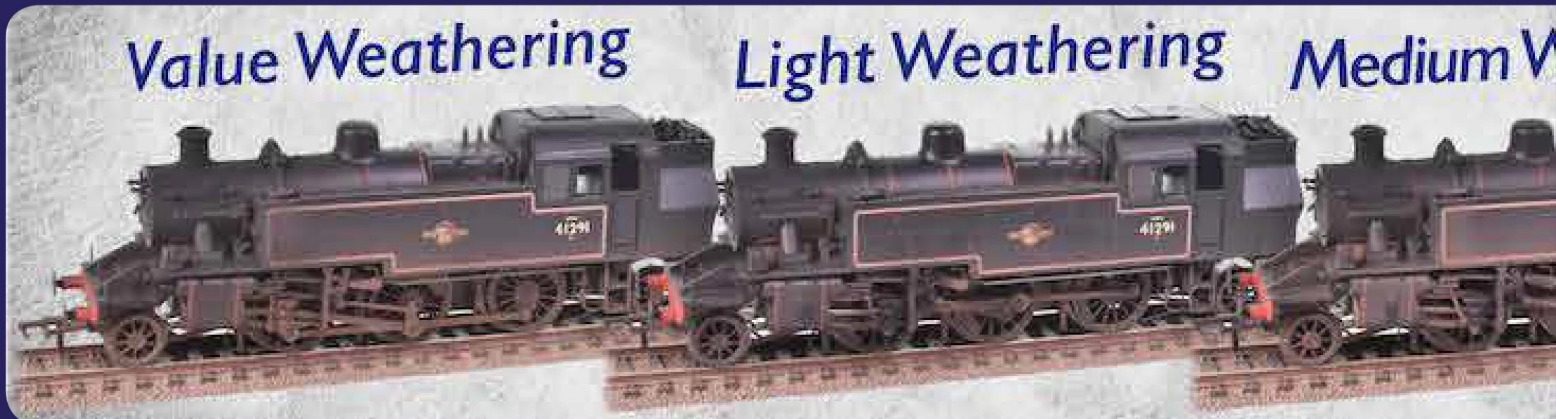
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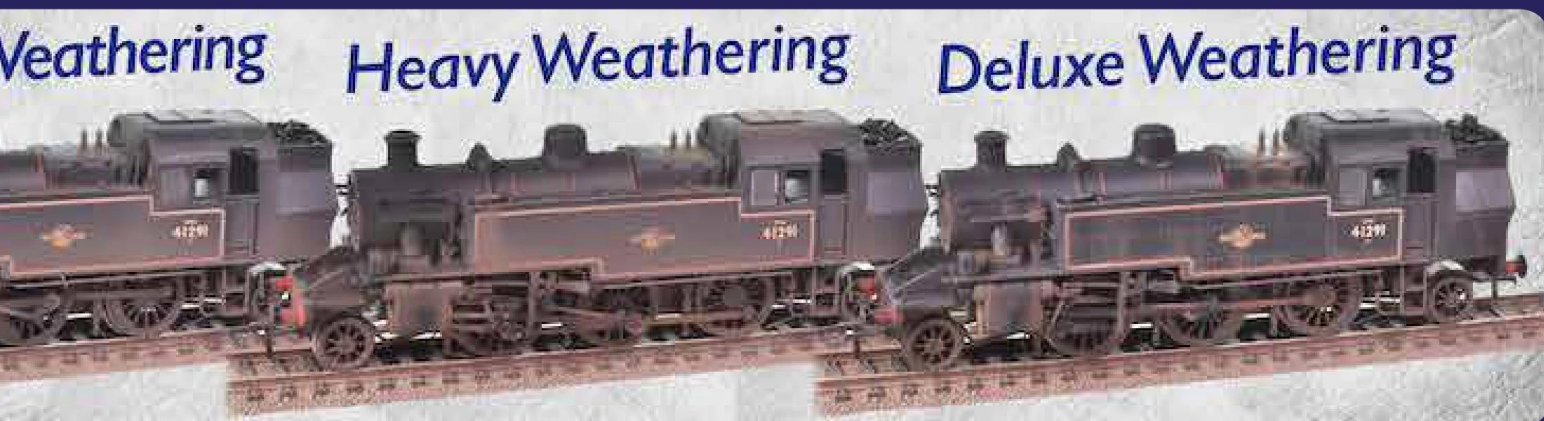


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How to weather buildings



This Atlas warehouse has been weathered using dyes.

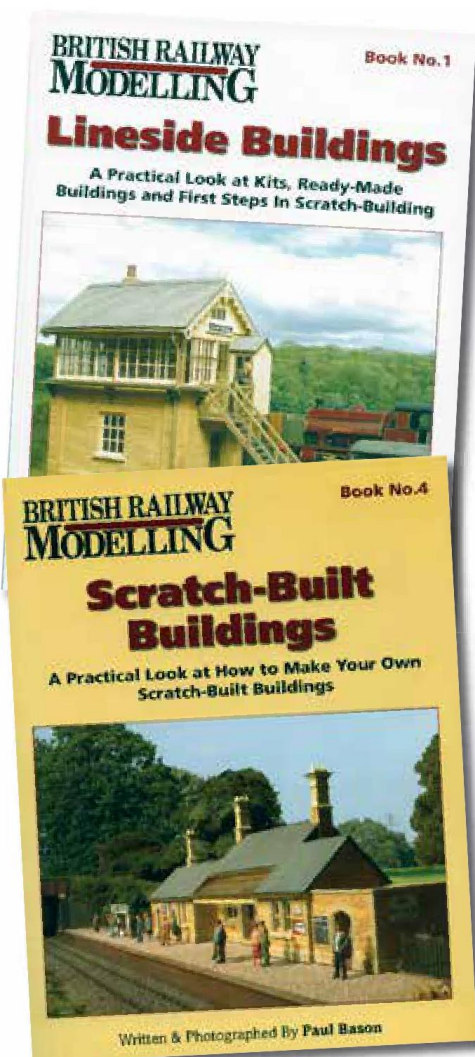
Light weathering can be done to roofs and walls using a 'dry brushing' technique. Use a flat paintbrush just dipped into acrylic paints – take off any excess paint with a tissue. Brush along the roof tiles and the brick courses. Some paint will stick to the detail on the walls and roof. Once the paint is applied partially rub it off using a tissue so that the weathering remains in the brick courses and between the tiles.

Weathering can also be undertaken with an airbrush or charcoal or chalk pastels. Watercolours are another cheap and cheerful way to weather these buildings – just run some diluted paint

down through the brick courses.

A different method is to use weathering dyes such as those made by Joes Model Trains (www.joesmodeltrains.com). These weathering dyes are water or alcohol soluble and provide good adhesion even on glossy paint finishes and smooth metals. They dry matt and can be sprayed with an airbrush or brushed on with a flat paintbrush. Use thin washes of the dyes starting at the top of buildings and let the diluted dye drip down through the brickwork.

As with all weathering unless you want your building to look very dirty go easy on the weathering techniques.



FOR MORE INFORMATION

- Right Track DVD No.7 – Building Buildings
- Railway Modelling: the Realistic Way (book)
- www.joesmodeltrains.com

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PRACTICAL
BRM



HOW TO...

BUILD AND WEATHER IN O GAUGE

There is no great secret to effective construction of rolling stock. And **John Emerson** shows you how to weather using just three basic colours!

Over the past few months I've been approached at shows by modellers wondering how difficult it is to make the move from the smaller scales to 7mm scale. I have to say that it is not that difficult as there is now a reasonable range of

ready-to-run locomotives and stock to choose from enabling the new convert to get something up and running in a reasonable amount of time. As always, the major stumbling blocks are time, available space and what your budget will stretch to! However, part of the attraction of modelling in the 'senior scale'

has always been building your own rolling stock and with a wide range of plastic (or mainly plastic) kits available from the likes of Parkside Dundas, Slater's, etc, this is as good a way as any of 'getting your eye in' before moving on to more complicated building projects such as white metal and etched-brass kits, etc.

WHAT YOU NEED

Three basic colours are all you need to begin effective weathering, along with some model cleaner, a selection of brushes, paint stirrers and something to mix the paint in.



The same weathering techniques can be used in O, OO and N.



BUILDING THE PARKSIDE DUNDAS GUNPOWDER VAN



KIT DETAILS

PARKSIDE DUNDAS
Millie Street, Kirkcaldy, Fife
Scale/gauge: 7mm/O
Price: LMS/LNER/BR
D.2093 Gunpowder van
(PS112) £33.90

Parkside Dundas released their latest 7mm scale kit, a 9' 0" wheel base LMS/BR Gunpowder van, at the Gauge O Guild's annual Guildex show at Telford last year. The kit is an accurate and versatile model as it can be constructed to represent an LMS or BR built D. 2093 vehicle (55 vehicles built at Wolverton between 1943-48), or one of the later but in all respects identical BR vans to Diagram 1/260 built from 1953-56. You could also finish your model as one of the 20 vans from Lot 1349 built for the LNER. All of these gunpowder vans were rated at 11 tons running on 9' 0" wheelbase underframes and, apart from the vacuum fitted BR vans built on Lot 2689, were unfitted. Under BR many later had vacuum brakes fitted or were through piped. Other alterations included Oleo or Dowty buffers and various styles of axlebox. Some vans also sported wooden chalk boards on the sides and ends as fitted to 12 ton ventilated vans. Vans fitted with the vacuum brake or through piped also had a tiebar fitted between the 'W'-irons.

The injection-moulded components were free of flash, requiring only minimal cleaning up, for the most part carefully paring away any obvious mould lines with a knife blade. As with any kit, taking time to study the assembly instructions and having

a 'dry run' before finally cementing parts together will pay dividends. Construction is quite easy, with the van body being assembled first using

a suitable liquid solvent applied with a small brush although you will need to decide on which version you wish to build before you start. To add a little variety I built the sample kit as a BR-built van fitted with Oleo buffers and vacuum brake.

For this you will need to source a brake cylinder and vacuum pipes (I used ABS white metal castings), and lamp irons (Parkside, again from the spares box). You will also need some nickel silver strip for the tiebar. The only deviation from the instructions was to replace the brake gear cross rod with a more robust piece of brass rod, and the rather fragile plastic brake levers with ABS white metal castings. Holes were drilled in the floor to prevent any possible build up of solvent fumes in the body once the roof has been glued on. The coupling links are now supplied in brass, which I discarded and replaced with iron links that I had in stock.



THE LAZY MAN'S GUIDE TO EASY WEATHERING

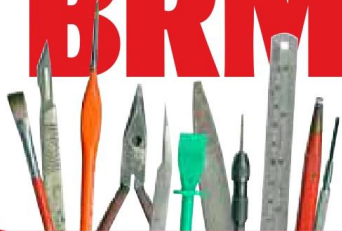
Having presented a painting and weathering demonstration at shows over the past few years, it always surprises me that most modellers are terrified of weathering their stock. I guess this is more understandable in the larger scales where the value of rolling stock can be considerably more than in the smaller scales. A degree of weathering can add character and a sense of mass to your models – there is no need to overdo it though! There is no great secret to weathering freight stock, whatever the scale you model in – it just takes lots and lots of practice. A good ploy is to find a cheap scrap wagon to practice on, or get a piece of plastic card, scribe some horizontal lines to represent planking, spray with primer and use that as a practice piece. Illustrated are three cattle vans, each of which has the same weathering technique applied to them to show the effect in 2mm, 4mm and 7mm scales.

Being essentially a lazy modeller, I like to get things done reasonably quickly so after experimenting over many years here is the method I have evolved – it seems to suit me and give me the results I require, you may disagree! First of all throw away all those made up colours – frame dirt, track dirt, etc – you really don't need 'em, they will cost you a fortune, and all your models will end up looking exactly the same as everyone else's.

My basic weathering colours consist of matt black, matt khaki, and matt white – stage painters have used a similar restrained palette technique for theatrical backscenes for years so we can't go far wrong! The majority of paints I use are from the Humbrol range but you may have your own favourite brand. Use an airbrush if you wish – I prefer to brush paint once the model has been sprayed in primer to give more variation between models. You will also need something to mix colours in – old tin lids or a CD case, etc, – paint stirrers (cocktail sticks), plenty of white spirit and a jar to pour it into, plus a selection of brushes. Be warned that weathering takes its toll on brushes – they will become quite worn quite quickly so keep them separate from your 'best' brushes. Obviously with RTR models we will be weathering over a factory applied paint finish unless you spray the model with primer first.

A degree of weathering can add character and a sense of mass to your models – there is no need to overdo it though!

PRACTICAL BRM



PAINTING THE ROOF



A strip of masking tape simulates the canvas roof covering - you could scribe the roof planking on first. Obviously there is no need to do this on steel roofed vehicles.

cover van roofs with masking tape, which will give a fairly subtle textured effect in 7mm scale although may not work in smaller scales. Seal the edges with solvent and when dry use a mix of matt black, white and khaki to give an off-grey roof colour. There is no need to use your best brushes or fine art painting techniques on van roofs - whack it on!

With the van body completed attention turned to the underframe. The solebars may need to be trimmed to fit between the headstocks, and alternative parts are supplied to enable the LMS/LNER version or later BR build to be constructed. The only other alteration was to substitute Oleo buffers for those supplied in the kit - mine came from a Just Like the Real Thing kit conversion project. No major problems were encountered during construction and the kit builds up into a nice representation of the prototype.

Once complete the model was degreased. I used lighter fluid swabbed over the model with tissue paper, but you could just as easily wash it in warm soapy water or use JIF (CIF) although both will require thorough rinsing to get rid of any residue. Alternatively use one of the proprietary model cleaners available through the trade. The choice of livery will depend on what era you are modelling. As my chosen era is

BR the finished model was sprayed with Halford's Red Oxide acrylic car primer, which approximates to BR bauxite. Roof, solebars, wheels and underframe were brush painted in Humbrol matt enamels, although it is entirely possible to mask these areas off and spray paint them. Details such as lamp irons and ends of brake levers were painted white, but the van was left unweathered for the Doncaster show.

Waterslide transfers are supplied in the kit for LMS, LNER and BR versions and these, along with some 'Pressfix' style transfers from a Parkside 'Parto' van kit were applied using a decal wetting solution (such as Humbrol's DecalFix). Apply to the transfers once they are in position - this softens the printed image and enables it to grip the painted surface more firmly. It is also useful if you have to apply transfers over any raised rivet detail, etc.

This kit was a leisurely and satisfying build and makes up into an accurate representation of a long-lived prototype, although purists will note the lack of rivets along the bottom

TOP TIP

PAINTING SOLEBARS, WHEELS AND UNDERFRAME

Never use pure black on models unless it is 'knocked back' slightly with the addition of another colour. Mixing a little khaki should give you the desired effect below the solebar - wheels and some parts of the underframe can appear quite dusty so introduce a little more khaki.

The kit was a leisurely and satisfying build and makes up into an accurate representation of a long-lived prototype

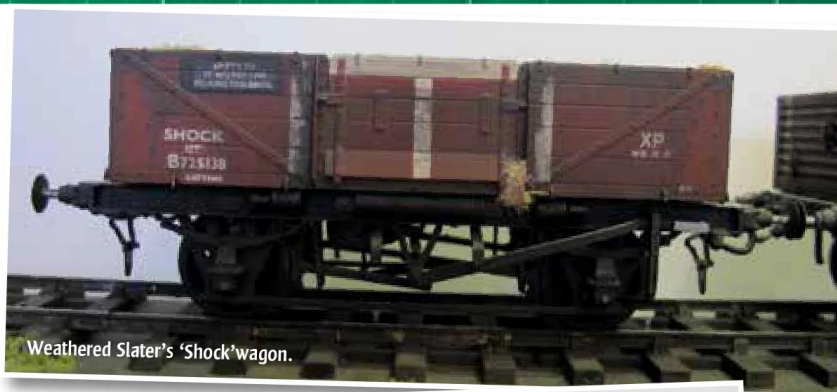
of the bodysides. These could be punched out from thin styrene and added while the sides are still in the flat. I would also prefer to not have blackened buffer heads, my preference is to buff these up and remove the blackening to get back to bare metal. But as a first step into building something for an O gauge layout it is ideal and is to be thoroughly recommended.



ADD WEATHERING

Use a mix of matt black and matt khaki diluted with white spirit for generally weathering stock. First I flood the colour on, then dip the brush in white spirit, wipe on a lint free cloth or tissue and use the brush to lift colour off. Essentially what we are doing is applying colour then washing it off little by little until the desired effect is achieved. I find the advantage of enamel paints is that they have a longer drying time than acrylics and so allow a little more time to 'work' the paint. Streaking caused by water coming off the roof is created by gentle downward strokes of the brush – before the paint has hardened you can also use a wide (1" or so) brush to give a more general streaking effect. Streaking and splashes caused by track dirt can be achieved by brushing upwards from the solebar, or by dry brushing when the main weathering has dried and hardened.

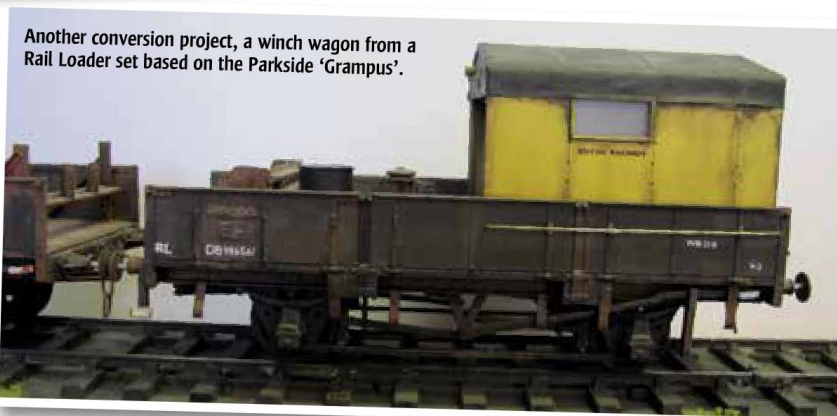
The mixes can be varied by altering the amount of white or Khaki added - experiment on an old wagon or piece of scrap plastic to get a feel for the technique and don't worry if you can't get exactly the same mix of paint, no two wagons ever weathered to the same degree on the full size railway! The paint mix should naturally flow into planking and gather in corners, along stanchions and diagonal strapping, etc, so when lifting paint be careful not to remove it from these areas. You may find it necessary to slightly alter the technique on plywood or steel sided vehicles. After flooding colour onto the vehicle use a sponge or pad of tissue (not the patterned kitchen towel sort!) to lift excess paint. You can also flood white spirit on to force pigment into the edges of the strapping etc.



Weathered Slater's 'Shock' wagon.



Converted and weathered Parkside Dundas GWR brake van.



Another conversion project, a winch wagon from a Rail Loader set based on the Parkside 'Grampus'.

EVEN LAZIER WEATHERING!



Left Applying Weathering Solutions transfers to a Bachmann 'Covhop'.

Below The finished result with a little extra weathering added.

For those who are still terrified of weathering, a useful range of weathering effect transfers are now being produced by US based Weathering Solutions. Available for N or HO scale the range of easily applied effects include old dark stained rust to light surface effects. We tried out some of these transfers on the new Bachmann 'Covhop' and they are quite effective, although as they are designed for use on American outline stock we would suggest the N scale decals are more suited to British OO and the HO would be effective for 7mm modellers. However, they provide another useful tool in the modeller's armoury.



These notes are only intended as a brief introduction to a relatively quick and easy way to weather rolling stock and I suspect that most modellers will want to amend or alter the way they apply weathering or develop their own particular favourite techniques. There is also plenty of scope to further refine your weathering by adding rust streaks, oil stains, etc, – although this will require additional colours and washes. Perhaps we will look at this in a future article.

BRM meets... GC WEATHERING

Weathering is an important part of the model railway business; we catch up with GC weathering to discuss the challenges of working in the industry.



If you weren't a railway modeller, the idea of buying something and immediately adding grime, rust or dirt would seem, to be frank, quite ridiculous. Imagine buying a car and purposely driving it through the biggest puddle, or putting on a new jumper and immediately going for a roll around in the mud, you just wouldn't do it.

However, getting your latest locomotive and adding dirt to represent wear and tear, or 'weathering' as it is better known, has become an essential practice for the hobby. It's all part and parcel of creating the ideal scene, and adding authenticity to the right era and geography.

GC Weathering is one of the biggest names in the business and we caught up with the owners, Carol and Glen Youens, to find out what's going on in the market at the moment and how they plan to stay ahead of the competition.

A little background

Being airbrush artists for over 30 years, Carol and Glen started out working on

commissions for museums and doing private work weathering boats, planes and tanks. It wasn't until seven years ago, when Carol was approached by a railway modeller to weather some model trains for a specific layout he was working on, that the idea of branching out into trains was born.

Today, GC weathering's clients include model shops, companies and numerous private commissions, and business is booming! Glen currently has a full-time job, so the core of the work is completed by Carol in her workshop, situated at the back of their garage at home.

There's currently a 12-week lead time on products. However, Carol works on a diary system and will contact customers when it's close to their designated slot to arrange collection of the locomotive; that way the customers aren't without their possessions for weeks at a time.

"We transferred our military knowledge to locomotives because we knew how to do airbrushing by hand and it's just gone from there," Carol explained. "A lot of our

business comes from word of mouth and shows. Getting to know the customers is so important, because we like to have that interaction and face-to-face contact. You learn more about what your customers want - everyone is individual."

Research is key

There's a lot of research which goes into the weathering business, and using photography is key for any era. The earlier the period, the harder it gets for Carol, who has had customers request models to be weathered as early as the Victorian era in the late-1800s. As you can imagine, trying to get photographs of that time is tricky and sometimes artistic licence is needed.

"People like to paint a picture, especially if it's somewhere they used to know as a child. That's very common, so we do a lot of weathering from photos," said Carol. "We do a lot of research. Even if a customer comes to us and gives us photographs and the different numbers they want for the locomotives, we will still do our own

research to find out more; like if they were washed regularly, if the roofs stayed dirty, or how different companies looked after their stock.”

The Great Western, for example, used to keep their locos fairly clean but the motive power in Gateshead would be absolutely filthy. It varies from sector to sector.

All about dirt

Weathering locomotives is a complex and time-consuming task, with layer upon layer of details added until the right effect is created. However, according to Carol, weathering trains, in comparison to other models, is not so different.

“In general techniques, it’s not that difficult, it’s just colours and effects mainly. Trains won’t have the level of mud like tanks and they wouldn’t look as wet, so it’s the effects that really make the difference. We adjust our colours and whenever we do a job for a customer, we mix our paint colours to match the era they’re modelling.”

There’s not much difference in difficulty when it comes to size either; Carol will simply adjust her techniques to cope with the style. Doing a lot of the detail by hand, pre-shading, and deepening of the grilles is one of the first steps before the airbrush

even goes near a model. “The airbrush really just ties everything together,” she explained. “It blends everything in, tones everything down and adds the finishing touches, and then the whole thing gets varnished. We build it up gradually until the locomotive looks right.”

The most challenging aspect for Carol is ensuring that it’s not overdone. That’s what GC Weathering specialise in - making sure the detail is there.

Timings vary depending on the model, but generally the process will start by washing the roof and once dry, picking out the seams next to the doors to help them look deeper. If there is a larger order, Carol will try and do each stage at the same time across all of the locomotives, to help speed up the process.

GC weathering deals with all scales of model locomotives and rolling stock and offers a complete weathering service. The company’s pick ‘n’ mix options are really popular and allow customers to customise each locomotive. The 20 different options to choose from are available on the custom weathering packages free of charge.

According to Carol, the trickiest model to weather is a hopper wagon as there’s a lot to be sealed inside, such as adding dirt or rust,

before you even get started on the outside of the model.

Model variety

As well as hopper wagons, Carol has also had a few requests to weather vehicles like buses and trams, which can be equally tricky. “We don’t tend to do stuff like that very often. They can be pretty varied in terms of cleanliness, so that’s down to artistic licence really. You have to use your imagination and just go by what customers want.”

The strangest thing we’ve been asked to do was by our local Rotary Club, which wanted its reindeer painting for the Santa sleigh for Christmas. They were about 4ft tall! So, we had to say we were really sorry but we couldn’t fit them in our spray booth!”

Carol will sometimes get asked to weather locomotives that are halfway through being washed on the layout scene, which can be a challenge. Or, if a customer has a shunting locomotive, they will request to make them oilier, as they’re not running down a main-line track, which ends up being a more grey-oily colour rather than dirt.

Weathering at home

With so many video tutorials and guides available online, many people try to weather



Heljan Type 5, 58020, displays a variety of effects from the custom specialists, from grease on the buffers to exhaust and underframe dirt. A greater choice of effects ensures that two locomotives rarely look alike.



models themselves. We asked Carol where people should start if interested in giving it a go, and her advice is to begin with weathering powders. Just start off with a couple of wagons and add the weathering slowly until you build it up and get the effect you want.

Sometimes people will get it wrong, though, and Carol admits, correcting some mistakes can be difficult.

"A lot of people try weathering models themselves and some people will have trouble, especially if they paint it. If they've tried to change the locomotive and painted it with a brush and it's left brush streaks, that's quite hard to get rid of, especially if they've used enamel paint. With acrylic paint you can get most of it off, but if they use enamel it goes really hard - you have to strip the body completely back to the plastic

and that's a lot of work. Renumbering can be difficult too. If customers do it themselves or paint over it, the colour of the cab can be completely different. Generally, though, we can put most things right."

Pick 'n' Mix

Offering exclusives gives Carol another option to add on the pick 'n' mix selection for locomotives. There are many different effects customers can choose.

For example, if a customer has 10 Class 37s, they can have each one with a different effect to make it individual. It also enables Carol to showcase styles that the customer didn't know about or has never asked for. Choices include bigger fuel stains, larger diesel exhaust pigment, silver buffers, white buffers, greasy buffers, and rusty buffers.

"It's quite bespoke what we do. Some weathering companies will work on a conveyor belt type concession, where one person does one colour and the next does another and you get into a habit of doing the same lines in the same places. Which means there'll be umpteen locomotives that look the same. We're different, we do one order at a time, and everything looks different to make it personalised. We have a customer in Kent who has over 40 Class 47s and every single one looks different. A lot of them have been renumbered, too.

A lot of our customers come to us and they are collecting or building up their collection because they've bought what they want and they're adding to it and getting them weathered. Some don't have layouts; they're just getting all their stock sorted first. They tend to know what they want and what era they're going for, and also how dirty they want them to be."

Among GC Weathering's customers are the Beefeaters of the Tower of London, as well as regulars from all over the world, including Atlanta, Lanzarote, Portugal, and as far away as Australia and Japan.



Bachmann's 2-6-4T 4MT, following enhancements by GC Weathering.

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HOW TO... WEATHER A DIESEL LOCO

Nigel Burkin provides some guidance on producing a realistic finish on ready-to-run locomotives while explaining some of the techniques involved.

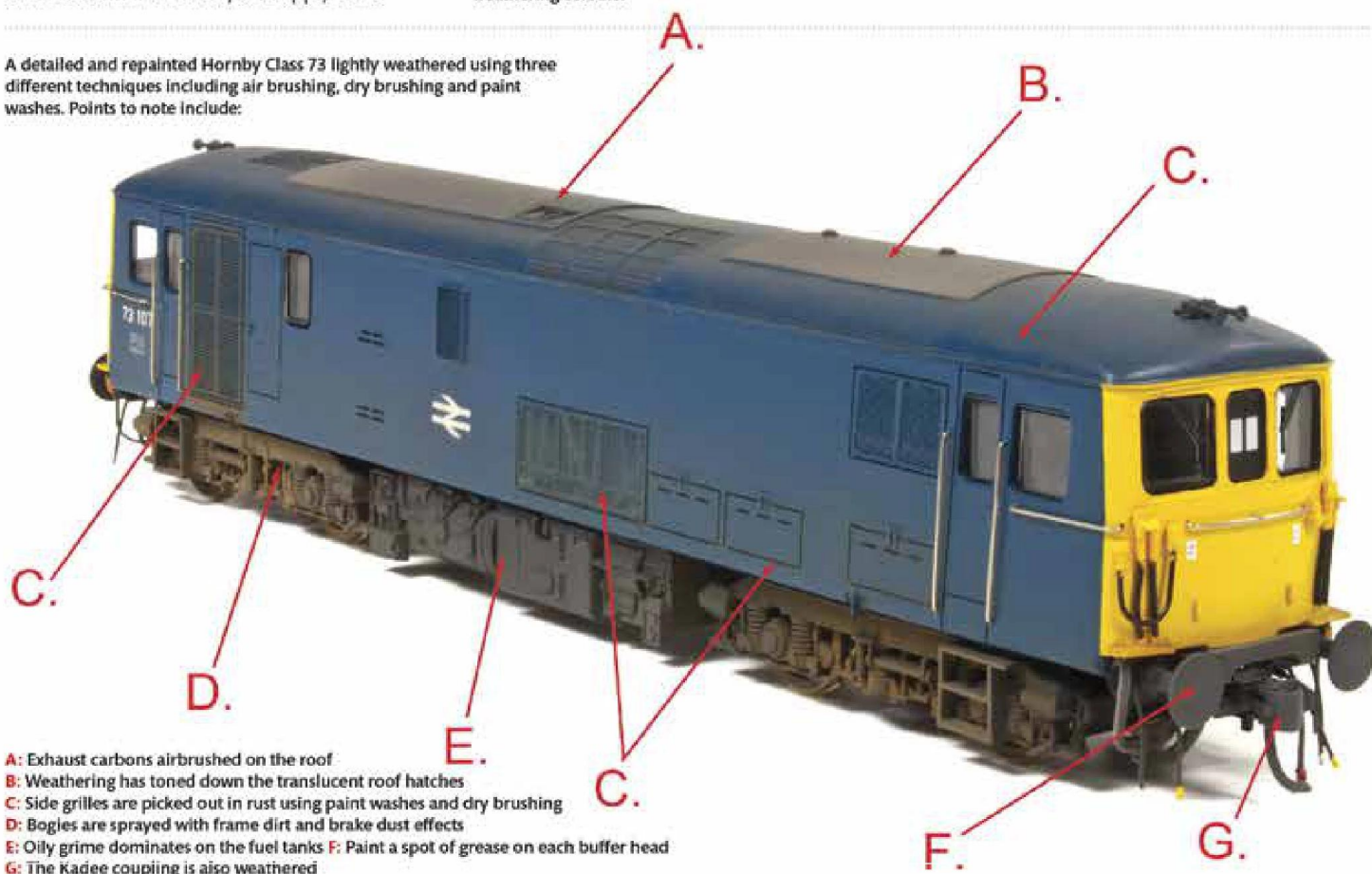
Livery application on RTR locomotives has improved beyond recognition in recent years, including many old favourites which have been given a new lease of life. The emphasis in locomotive and rolling stock modelling has switched from kit construction and conversion to detailing and weathering models straight from the box. With finishes that are carefully researched and applied, it leaves the modeller little to do except apply detailing parts and make the model appear as if it has been in traffic for some time, assuming an ex-works appearance is not required. Weathering is one of those things which can make or break a model. You only have to look at some of the early attempts by the mainstream manufacturers to satisfy this demand to see that a quick blast with brown or even black paint does not bring out the character of the prototype particularly well.

My preference is for purchasing models finished in pristine condition, renumber and rename them if necessary and apply some

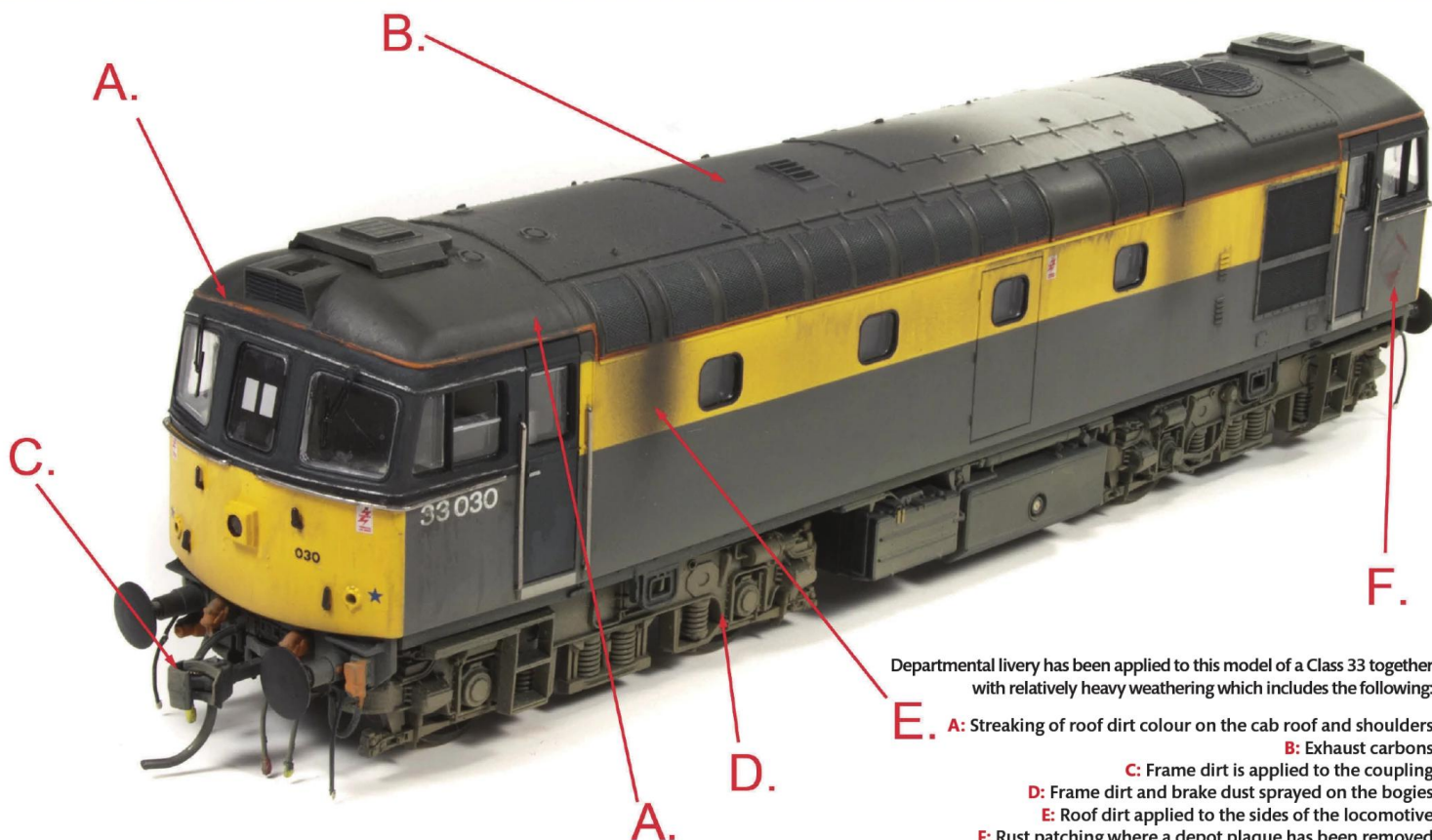


A selection of the tools and materials required for basic weathering application including paints and weathering colours.

A detailed and repainted Hornby Class 73 lightly weathered using three different techniques including air brushing, dry brushing and paint washes. Points to note include:



- A: Exhaust carbons airbrushed on the roof
- B: Weathering has toned down the translucent roof hatches
- C: Side grilles are picked out in rust using paint washes and dry brushing
- D: Bogies are sprayed with frame dirt and brake dust effects
- E: Oily grime dominates on the fuel tanks
- F: Paint a spot of grease on each buffer head
- G: The Kadee coupling is also weathered



Departmental livery has been applied to this model of a Class 33 together with relatively heavy weathering which includes the following:

- A:** Streaking of roof dirt colour on the cab roof and shoulders
B: Exhaust carbons
C: Frame dirt is applied to the coupling
D: Frame dirt and brake dust sprayed on the bogies
E: Roof dirt and brake dust on the locomotive
F: Rust patching where a depot plaque has been removed

character using a combination of weathering techniques. They are fairly simple to apply and of the six I use regularly, only one applies to models when in the process of being repainted: pre-shading. Nonetheless, it is an important one to remember and may be used on all manner of modelling projects including rolling stock and buildings, as can all six of the techniques described below.

Weathering requires a degree of courage to try for the first time. Given that many RTR models sit in the £75-£125 price band for a DCC-ready example, taking dirty-looking paint and applying it to a beautifully applied livery seems daunting. It is a good idea to practice on an old model or spare bodyside before tackling an expensive model. Take your time, choose colours carefully and use little, rather than large amounts of paint. Practice makes perfect.

When tackling a new loco, I add the detail parts first before applying weathering. The workbench is cleared of tools and cleaned of dust and plastic shavings before I place the materials I plan to use on it. A foam pad is always to hand on which to rest the model whilst working on it. When airbrush weathering is involved, the spray booth is prepared and the compressor warmed up.

Choosing weathering colours

There is a huge variety of paints and other products available for weathering and some research is needed to find out exactly what is available and how they are used. I prefer to use enamel paints than weathering powders and similar materials as they are more durable. Weathering powders do not withstand much handling and require overcoating with matt varnish to seal them, losing some of the desired effect in the process. Acrylics work well but dry much quicker than enamel paints. Whilst this is a benefit in finishing a model quickly together with simple cleaning with water, the faster drying time means you have to work fast and

that is not ideal for achieving certain effects where slow considered work is better.

Use photographs to help choose the correct colour shades. Some locomotives weather differently to others and the degree of weathering will depend on age, the era (modern trains of the privatisation era are generally kept clean) and whether it is steam, diesel or electric. Another consideration is the livery on which the weathering is being applied - the lighter the livery colours, the less colour needed to make the locomotive appear dirty. I consistently use a small number of colours to achieve a relatively light level of weathering, concentrating on those areas that a coach washing plant cannot reach: the roof and underframe. I use dark grimy greys for oil, grease and exhaust dirt and bodyside streaking. 'Frame Dirt' is a great underlying grime for underframe and bogies whilst a yellow rust colour makes good brake dust. I do not use red based rust colours except in tiny quantities. Avoid using pure black or white as these rarely occur - use light greys and very dark grey shades instead as these will appear more natural.

Six essential techniques

1. Dry brushing

An effective technique for highlighting detail on

a model without using large amounts of paint. Simply wet the tip of the brush with paint and then brush it against kitchen towel to remove as much as possible, so only the barest trace is left. Apply to the model by brushing over raised detail until some colour is left behind. This method is very controllable and can be applied to certain details resulting in quite subtle effects.

2. Air brushing

Many great effects can be achieved with the airbrush, however, it requires a great deal of control to minimise paint application so the weathering effect is not overdone. It is ideal for general grime on underframes and roofs where dust from brakes and exhausts results in a more even application of dirt. Spray painting is also used to apply colour before streaking with a cotton bud, cloth or sponge dampened with paint thinners.

3. Pre-shading

One method for highlighting recessed detail is to apply black to grilles, door lines, footstep recesses and so on using an airbrush during the painting of a model. The margins of the painted areas must be soft rather than masked to create a hard line. When completing the painting of a

Tools and materials

- Paint brushes - past their best for dry brushing
- Flat paint brush for wash application
- Make-up sponges for heavier weathering effects and streaking
- Airbrush equipment
- Kitchen paper for dry brushing work
- Paint mixing sticks
- Appropriate paint thinners
- A variety of different containers for thinning and mixing paint
- Weathering powders



Dry brushing involves the application of the smallest amount of paint to highlight raised detail.

model, care is taken not to fill the recessed detail with paint resulting in the black striking through to create contrast or a shaded effect. This method does not work for models that have already been painted and finished.

4. Paint washes and wiping off

Recessed detail on a painted and finished model can be highlighted using thin washes of grimy grey paint thinned to a ratio of 15:1 or more and applied in very thin washes. The effect can be built up over several applications until the desired result is achieved. The same technique can be used to create weather staining and streaking along the shoulder and down the sides of a loco as if rain water has combined with dirt on the roof. Washes using less thinned paint will also produce interesting streaking effects as will wiping the model down with a make-up sponge.

5. Weathering powders

Weathering powders are growing in popularity for creating a variety of effects including rusting, general grime and toning down the finish of a model. Some modellers apply them dry using a brush, they can be mixed with water and even hairspray to achieve different effects. However, weathering powders do not stick as well as paint and may rub off with excessive handling so should be sealed with matt varnish to protect them, although be aware that varnishing will reduce the effect of the powders too.

6. Sun bleaching and paint fading

Paints eventually fade in bright sunlight and after prolonged exposure to the weather. This effect can be achieved by applying more than

one coat of matt varnish to a model using an air brush. It can also be introduced with very thin washes of light grey paint to a finished model before other weathering effects are applied. Interestingly enough, oily grime, exhaust dirt and rust never seem to be affected.

A typical sequence of weathering

1. Underframe and bogie sideframes are spray painted with a thin coat of 'Frame Dirt' then gently over-sprayed with a light yellow rust to represent brake dust. The body and wheels are usually masked for this process.
2. The locomotive is returned to the work bench and the wheel sides painted with frame dirt.
3. Bodysides and roof are given a thin wash of roof dirt colour, a suitably grimy grey shade thinned to around 20:1 with thinners. This picks out recessed detail such as door lines, grilles, etc. Washes are best applied in several very thin applications building up to the desired level.
4. The lower edge of the body may be treated with dry brushing, usually with light yellow rust colour and dirty black to represent brake dust and oily grime from the running gear.
5. The model is returned to the spray booth for dusting the exhaust carbons around the exhaust port and along the roof.
6. A final delicate spray of roof dirt may be applied to the fuel tanks and to the bogies to give the model an oily appearance in places.
7. Touch-in painting can include the application of oily steel colour to foot step treads and the buffer shanks together with a spot of dark grey on each buffer head to represent the spot of grease often applied to them.



Airbrush weathering is used to create general grime and weathering effects such as the effect of exhaust carbon.

Phoenix Precision paint colours

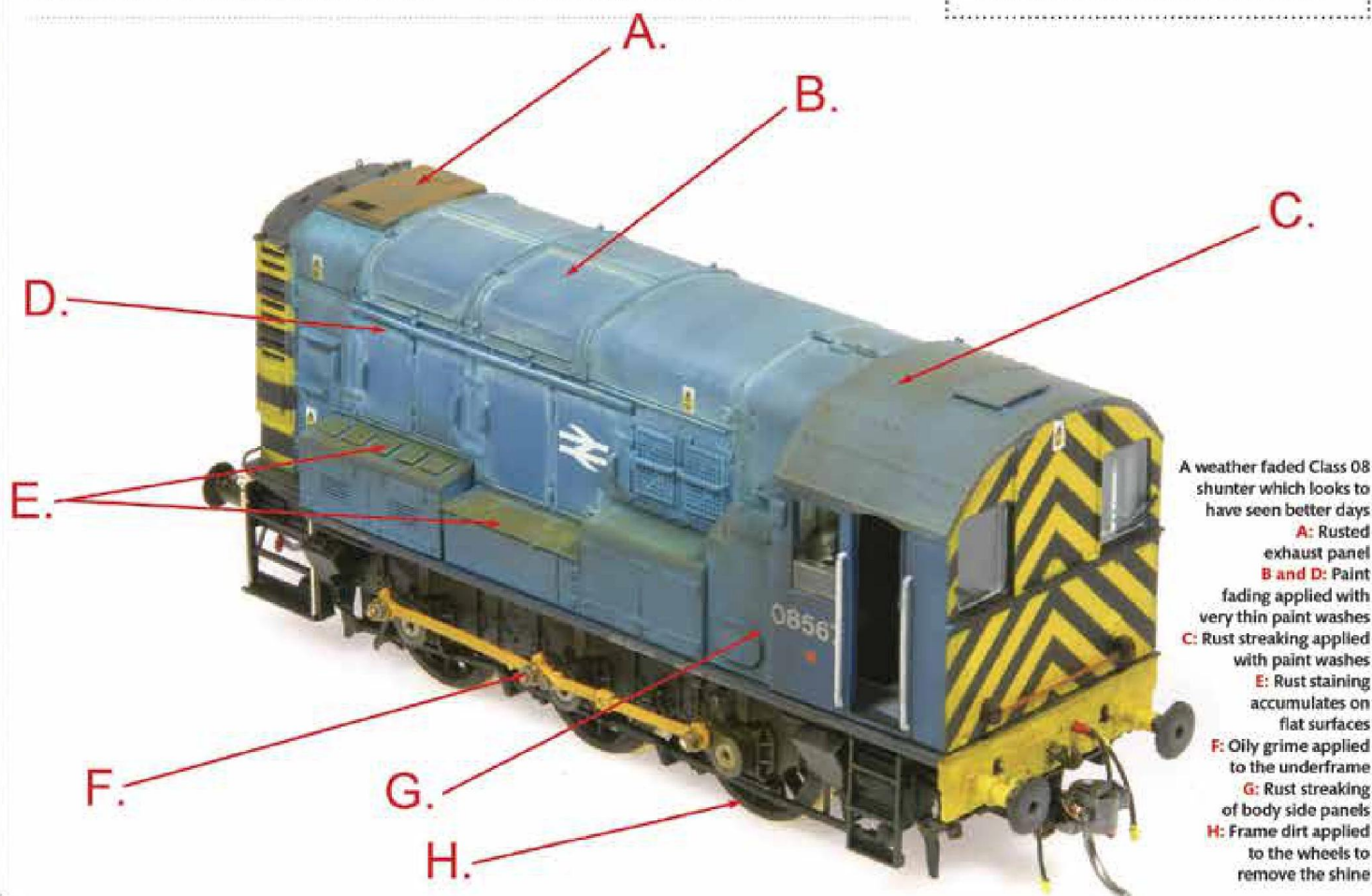
- Frame Dirt (P960) • Roof Dirt (P962)
- Brake Dust (P963)
- Track Colour (P977) - rusty rails
- Dirty Black (P981) - good grime colour
- Weathering (P982) - sooty deposits
- Oily Steel (P986) • Brown Rust (M904)
- Yellow Rust (M905) • Oil Leakings (M912)
- Dull Black (P975) and Dull White (P976) for paint shade mixing only

Railmatch enamel and acrylic paint colours

- Acrylic steam loco weathering pack (101A)
- Acrylic diesel loco weathering pack (103A)
- Enamel steam loco weathering pack (100E)
- Enamel diesel loco weathering pack (102E)
- Frame Dirt (402) • Roof Dirt (403)
- Light Rust (404) • Dark Rust (405)
- Sleeper Grime (406) • Matt Varnish (407)
- Weathered Black (412) • Oily Steel (415)
- Brake Dust (416)

Also consider:

- Tamiya weathering pens and sets
- Life Colour acrylic paint weathering sets
- Humbrol or Carr's weathering powders.

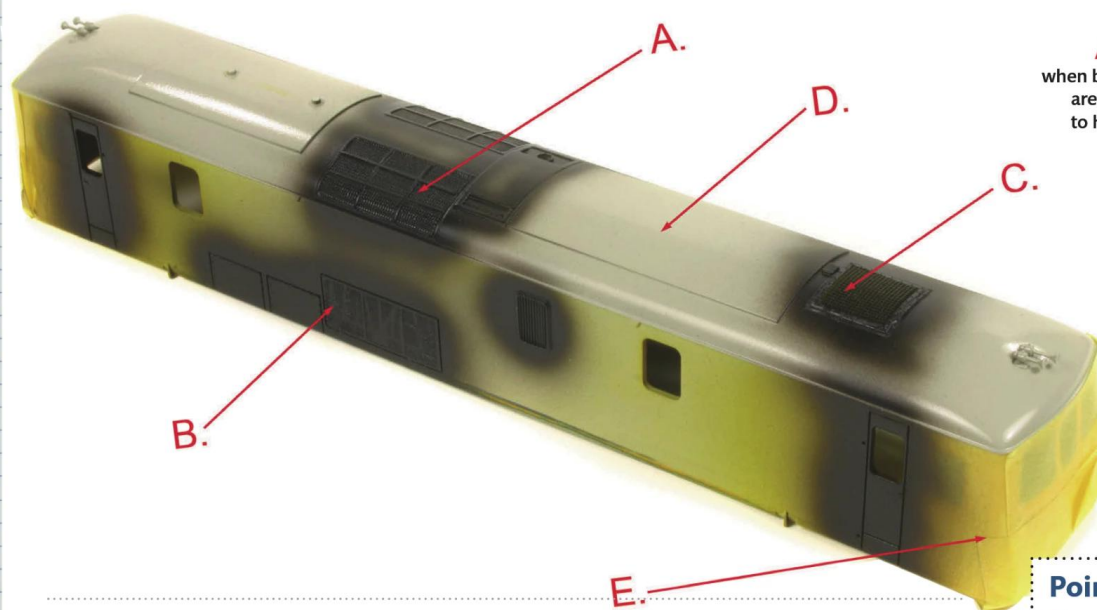


A weather faded Class 08 shunter which looks to have seen better days
A: Rusted exhaust panel
B and D: Paint fading applied with very thin paint washes
C: Rust streaking applied with paint washes
E: Rust staining accumulates on flat surfaces
F: Oily grime applied to the underframe
G: Rust streaking of body side panels
H: Frame dirt applied to the wheels to remove the shine



Modern locomotives are usually kept quite clean so only light weathering was applied to this Bachmann Class 57.

- A:** Part of the roof is relatively clean
- B:** Only light dusting of brake dust is applied to the underframe
- C:** Footsteps are picked out in oily steel
- D:** Light grime effects are applied to the underframe tanks and boxes
- E:** The wheels are painted with frame dirt



A: Pre-shading is a technique applied to models when being repainted. Black paint is applied to certain areas, sometimes after repainting has been started, to help highlight recessed detail such as roof grilles

- B:** Body side grilles
- C:** Cooling fan grilles
- D:** Flat areas of the model are left clean
- E:** Areas where pre-shading is not desired are masked such as the cab fronts.

Once dry, the repainting of the model with normal livery colours can continue, taking care not to fill the recessed detail with paint.

On models that are previously painted and finished, the application of thin washes can also be used to highlight recessed detail. The same method also introduces dirt streaking and areas of general grime to the roof and sides of a loco. It is built up in thin layers and care must be taken not to overdo this technique.



Points to remember

- Less is more - don't overdo the weathering
- Keep records of the techniques used on particular locomotives so they can be repeated
- Don't use your best paint brushes for dry brushing!
- Keep a high quality flat brush specifically for applying thin washes
- Stir paints thoroughly before use
- Study photographs of the prototype to achieve the correct effect
- You do not need to use a lot of paint for effective weathering
- Practice until you are happy with your results
- Enamel based paints give you more working time to achieve certain effects than acrylic paints
- Do not use pure black or white for weathering locomotives.

HOW TO MODEL RUST

SKILL LEVEL - BEGINNER



Following the success of his realistic 'Woodmores Scrapyard' diorama, Michael Russell reveals his secret techniques to achieve a convincing rust effect.

Words & Photography: Michael Russell

See
Michael Russell's
Woodmores
scrapyard diorama
in the December
2017 issue
of **BRM**.



Oxidation is the enemy of many things, both living and non-living. In our world it's most noticeable in the form of rust.

Locomotives and trains operate outdoors where conditions are perfect for the effects of rust to take hold. So, somewhere on

your layout, you will have the opportunity to model this common form feature on man-made items of steel using weathering techniques.

There are many ways to portray rust, so I'll show you several methods to add it to your arsenal. You'll get a more realistic finish if the

rust, just like the real thing, exists as a layer beneath any paintwork. So wherever possible, and certainly where a model has a significant level of rust, it is good to paint the model a rust colour first before adding your livery of choice above. Don't forget to always use matt paint when depicting rust - let's get started. ■



Nothing quite competes with the potential number of rust effects possible per square centimetre than a scrapyard diorama. Michael's Woodmore's Scrapyard diorama captures the variety of dark and bright hues. Why not add one to your layout?



1

If you have a model that has metal components, or you plan to use an acrylic paint as the first layer, you'll need to use a primer. The red oxide finish is the obvious one to choose where rust is involved.

2



Alternatively, if the model is plastic and you're using enamel paint, spray or paint a uniform base coat of a suitable rust colour.



3

Choose three rust colours. Lifecolor has a set called 'Dust and Rust' or try Humbrol acrylic colours 63, 113 and 186. You can use enamel or acrylic, but ensure that all three colours are of the same paint type.



4

Decant a small amount of each colour into separate containers and dilute 50% with a suitable thinner.



5

Paint the surface with the relevant thinners and then quickly dab each of the three colours into the mix in a random fashion, letting them merge together.



6

The result is a mix of colours that looks quite realistic. I've used this technique on my scrapyards locomotives and on buildings for general weathering effects.



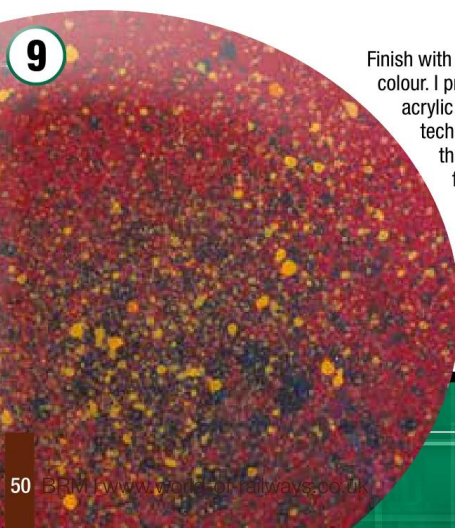
7

Using your three rust colours, start with the darkest and flick this at the surface using a toothbrush and a blunt tool such as a lolly stick.



8

Now move to the next darkest tone and flick this at the surface. You may like to practice on a piece of scrap paper beforehand so you can judge the amount of paint to use and the droplet sizes produced.



9

Finish with the lightest colour. I prefer to use acrylic paint for this technique because the paint dries fast and waiting between colour changes isn't a requirement.



10

Let's use this low-mac wagon with a wooden deck for demonstration purposes to add rust effects. It has a black undercoat and the weathering powders used are Iron Oxide, Rust and Sand from the Humbrol range. Ensure that you only apply weathering powders to a matt surface, otherwise adhesion is likely to be poor.





11

Apply weathering powders with a brush with bristles that have some resistance in them - a hog's hair brush works well. If you don't have one, cut down the bristles of another brush. Use cheap or old brushes for this because it will ruin brushes.



12

Let's forget that the wagon should be planked and test our effects. Apply the iron oxide colour first, working it across the wagon in a random fashion with the brush.



13

Dust off any excess with a large soft brush over a small sheet of paper and use this to return the spare powder to the jar.



14

Now switch to the rust powder and work this into places not covered by the Iron Oxide.



15

Now add the sand colour powder concentrating on areas that haven't been covered. Blend it all in with a large soft brush. Experiment with the other colours in the range and you'll find that some interesting effects can be achieved as you can see below.

CONCLUSION

Rust isn't difficult to portray and the most important thing is not to employ just one colour. Use a range and blend them in to get subtle changes in tone. You don't need to buy expensive equipment and the effects can be achieved quickly and without too much effort.



Freshly oxidised areas of steel adopt a brighter rust hue than older and longer exposed areas of steel. Think about which colours you'll need on your model before you start.

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