

# BRAILLE SCALE MODELLING

BY SVEN-ÅKE GRUFSTEDT



## PAINTING AND WEATHERING

## **Table of Contents**

- 1 - Introduction
- 2 - Forced Contrast
- 3 - Hairspray
- 5 - Salt
- 6 - Pigments
- 7 - Artist Oils
- 9 - White Glue
- 10 - The Excercise
- 12 - The Fallen King
- 13 - Bad to the Bones
- 14 - The Pigs of War
- 15 - Stridsvagn 104
- 16 - Taking the Scenic Route



Weathering has moved a long way since Francois Verlinden and the likes of him did their masterpieces. I can remember how I stared at those centerfolds in the Tamiya catalogue where Verlindens dioramas were displayed. I could not dream that anyone would be able to do better than him, those models were so realistic and it was unthinkable that we mere mortals could ever achieve something remotely similar to those models.



Today by using fairly simple techniques we can all achieve the same quality and in some cases even go beyond what the old masters did.

To create my models I use many different techniques to achieve the effects that I want. The picture above shows several of the techniques that I use and I will try to explain each and everyone as detailed as possible.

The techniques used above are:

1. Hairspray
2. Salt
3. Artist Oils
4. Acrylic Paint
5. Pigments
6. White Glue

Some of these techniques require a fair amount of practice before they are applied to a model but even with a lot of practice things can go terribly wrong so please try the techniques first on either a scrap model or a piece of plastic sheet to get to know them well before you apply them to your model.

The most important thing, even more important than practice is the desire for experimentation and to discover new and interesting ways to work and above all to become a better modeller by daring to try out every new technique that comes along. It does not take very long before you will have your own set of favourite techniques that you use on all of your models.

With this booklet I would like to thank all of the modellers out there who have inspired me and taught me everything I know today.

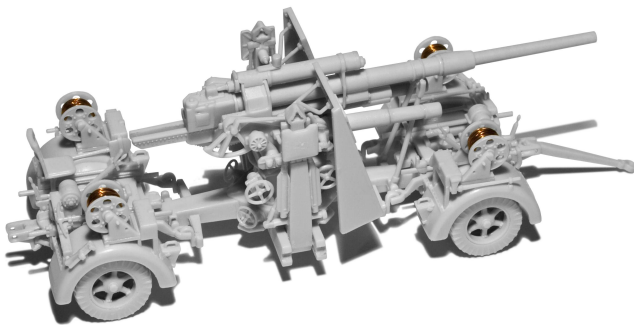
Thanks!





When painting small scale vehicles the most important thing for a successful paintjob is to make sure that they have enough depth and contrast. Without it the model will appear flat and two dimensional.

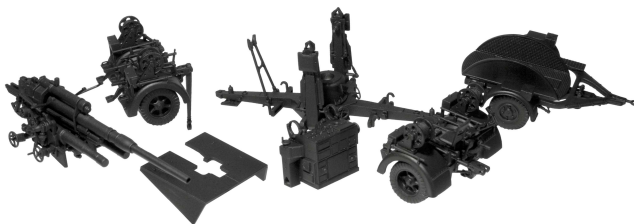
I use what I call the two meter rule which basically is that I put the model on a table under normal lighting conditions and back away about two meters. If I can still see a good depth in the model at that distance it has perfect contrast and need no further work.



To achieve this depth I use a painting technique which I call "Forced Contrast" and it is very simple to apply to the model.

Forced Contrast contains the following steps:

1. Airbrush a darker basecoat. I normally use black because it gives the best shadows but you could use other darker tones too. If you for instance are doing a sand coloured vehicle you could use a very dark brown or if the vehicle is green you can go with a dark green.

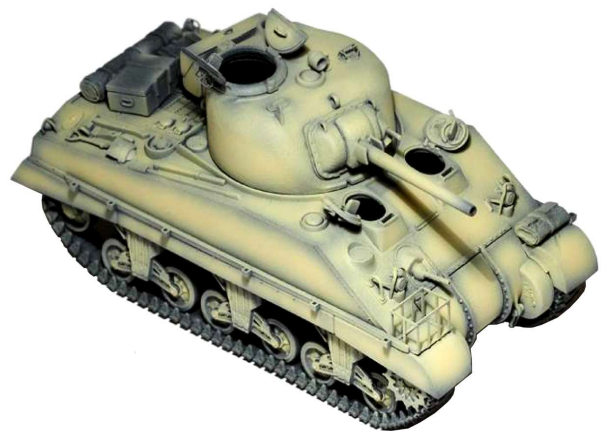


2. The topcoat is applied by spraying each armored panel or other large detail by itself starting at the center of it and moving carefully out towards its edges. The easiest way is to hold the airbrush fairly close when starting at the center and slowly moving it away from the model when approaching

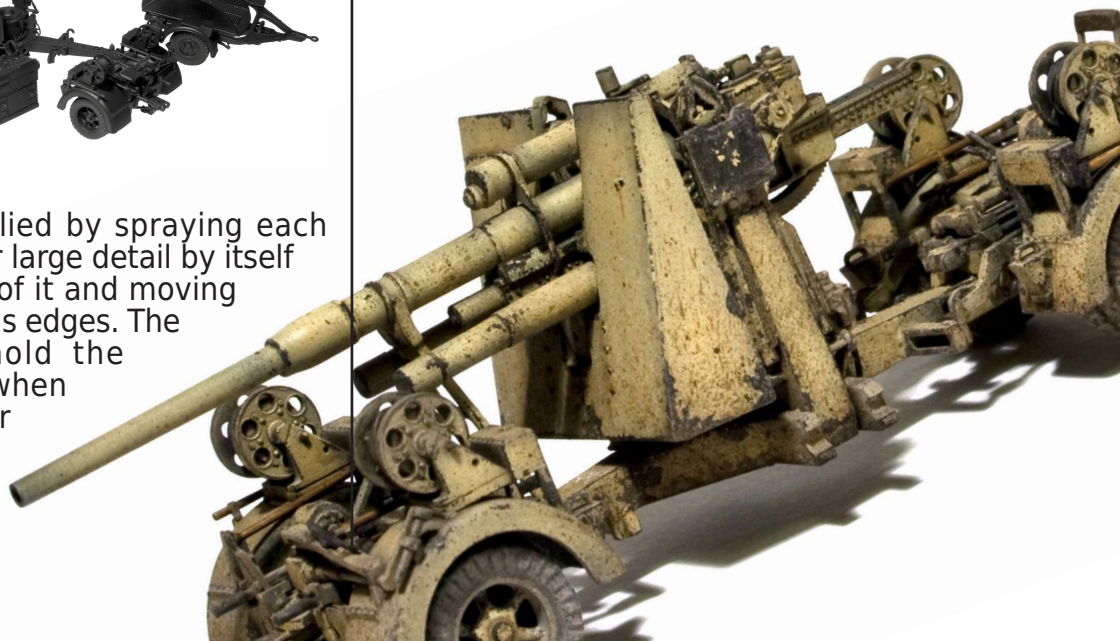
the edges of each individual section of the vehicle. By doing this you get less paint close to the edges letting the black basecoat show through and that gives you instant shadows and a perfect contrast.



On this Sherman below you can clearly see how the technique works and how the vehicle should look like once the paint has been applied to the model.



The stronger you make the effect the harder it is to lose it when you continue with the weathering. If you make it too strong you might end up with a vehicle that looks like it belongs in a cartoon so practice to find the right level for this effect that suits you.





One of the most popular techniques to do chipping is by using hairspray. It is fairly easy and if one follow a few simple rules there are some very cool effects to be had.

For this Panzer IV I have used the hairspray technique and the steps are as follows:

1. Basecoat Black (Vallejo Air)
2. Two thin coats of hairspray (any brand)
3. Topcoat Yellow (mix of Vallejo Air)
4. Once the topcoat of yellow is done I fill a cup with some warm water and find some old stiff brushes, toothpicks and other items to damage the topcoat.

First I select a section of the vehicle that I will start working on. It's a bad move to try to do the whole vehicle in one go since water will reach places that I have not yet started to work on and that will make the hairspray dissolve and once it has done so, there's no way of getting the topcoat off in those places.

By dipping a stiff old brush in the warm water and starting to carefully rub the area that I want the chipping to appear I slowly dissolve the hairspray between the two layers of paint and after a few seconds the topcoat starts to break and small sharp edged pieces of it starts to come off looking just like the real thing.

Depending on the amount of water and the pressure I apply with the paintbrush I can do very small chips or large chips. By using for instance a sharp needle I can do long scratches and a toothbrush can be used if a lot of the topcoat needs to come off.

This technique is very exact, you get the chips exactly where you want them and with a bit of practice it becomes very controllable and easy to work with. If you are very careful you can use several layers of hairspray to achieve very interesting effects.

The possibilities are endless with this technique.



Here are some of the tools that I use for the hairspray technique.

Perhaps the most important of them all is the cup of warm water. I always have one at the workbench so I can dip the brushes or whatever tool I chose to use when I do the chipping. By using warm water the hairspray dissolves a little easier.

If the hairspray should dissolve by accident in places that you not yet have started to work on it can be extremely hard to remove the top coat of paint. A tip here is to use some decal softener but it should only be tried in extreme cases,

Then there's the tools and shown here is just a selection of what can be used for making the damages and chips in the paint. It's basically up to you and your imagination to chose what tools you think work best and feels most comfortable to work with.

I have tried steel wool, needles, all sorts of paintbrushes, scalpels, sandpaper and a whole bunch of other things,

The hairspray itself is something I bought at the local supermarket. The amount of different brands are staggering so I bought this can since it was one of the cheapest ones and it seems to be doing the job without any problems.

When it comes to how long you can wait after you've applied the hairspray and the top layer of paint I can only say that I have not found this to be very time sensitive but the sooner the better would be a good rule to follow.





The salt technique is probably the most unpredictable effect of them all. It's very random and it is very difficult to apply it in exact positions. Using salt is however good if you look for an effect to be placed over an entire vehicle in a random fashion like on this ISU 152 which was given the salt treatment.

Here are the steps for the salt technique:

1. Paint the model in a slightly darker version of the base colour.

2. Spray a very thin mist of regular tapwater over the model. Be careful not to flood the model completely with the water. If that happens you can soak up the excess with some soft tissue paper. The surface should just have a very thin film of water, too much and the salt begins to melt. The point of using the water is to create a surface where the grains of salt can get stuck. If you don't have enough water, the grains will be blown off when you do the second coat of paint so it's a fine balance that requires some testing before you actually try it out on your model.

3. Sprinkle regular fine table salt over the model in the areas that you want the effect to be seen. I chose to do it over the entire model since it's very difficult to control where each individual grain of salt lands.

4. After the water has dried the grains of salt sticks to the surface and will act as a mask for the next coat of paint which in this case is a lighter version of the first coat of green. Depending on how much difference in brightness you have between the two coats of paint you will get a more or less prominent effect of the chips.

5. Once the last layer of paint has dried it is time to carefully rinse the model using some tapwater and a very soft brush. By carefully removing the grains of salt the underlying darker paint will show through and create the illusion of random chips all over the vehicle.

This technique is a very quick way of getting your vehicle to look used and abused.





Pigments are very useful for us modellers and there's a lot of different ways they can be applied to the model. The most common way to apply them is to rub them in to the surface of the model with a brush. There are however many other ways to apply them and I will show a few of them here.

By tapping a brush loaded with pigments I can create a snowfall of pigments over the vehicle. This is great if you want some random dust and grime over an entire vehicle. The downside is that it's not very exact. If you make a mistake and the pigments won't fall there you want them, just blow a little and they will be removed letting you to have another try.

To fixate the pigments you can use a large soft brush and carefully press the pigments into the surface or you can fixate them with various fluids like thinners or window cleaner.

If your aim is to have some structure on the dirt, then the wet fixation is to be preferred. By using a small paintbrush carefully add the thinner next to the pigments and let the fluid soak the surface around it. The pigments are then joined with the surface but keeps some of it's structure. This is ideal for mudspatter.

There are many manufacturers of Pigments and many of them can be found within the realms of modelling but you can also find pigments and chucks like the ones I use in regular artist supply shops. The cost for "artist" pigments and chucks are usually lower than the brands aimed at modellers but if you are like me and want to experiment a little bit with different chucks and textures of different pigments I recommend that you check out your local art supply shop and see what they have to offer. I can say that I visit the arts shop more frequently than the hobby shop...



By gently tapping the brush loaded with pigments we create a snowfall over the model.



By pressing carefully with a large soft brush the pigments are applied to the surface.



Wet application is very good if you want to keep some of the structure in the pigments.





Artist Oils are perhaps the most versatile thing in the modellers toolbox. It's best characteristics are that it is slow drying and is very easy to blend from one shade to another

Depending on the amount of thinner we mix with the oilpaint we can have everything from subtle filters that alter the appearance of a colour to strong washes to enhance lines between panels, boltheads and other details that needs more contrast.

We can also fade colours with them thanks to their amazing blending abilities.

What I will show here are a few other effects that are very easy to do with these artist oils.



To create rain marks and rust streaks just place some small blobs of an appropriate oil colour straight from the tube with a small brush at the location where you want the effect to be shown.

Rust streaks placed below grab handles or where the chipping is severe can be a very effectful but as with all effects they should be applied with moderation and a fair amount of logic to look convincing.



This effect can be used on all surfaces to create more life and irregularity. A single coloured vehicle will look very boring if there's nothing happening in the paint.

To create an irregular painted surface the basics are the same as when you do the rain marks and rust streaks. There are however two differences and the first one is that we use several colours instead of using only one for rain or rust effects and when we fade the colours we move the paintbrush in a more uncontrolled manner instead of in a downward direction like when we faded in the oil colors.

Once we have placed out all the blobs of oil paint it's time to fade them in and to do that we use a soft wide flat brush dampened with thinner. As I said earlier, the rain and rust effects are often vertical effects so therefore we slowly drag the brush in a downward motion to fade the oil into subtle streaks and marks.

For the irregular effects a soft stabbing motion works quite well but other techniques work just as well. Experiment and see what works best for you.

Another thing that needs to be tested before trying this out on a model is the amount of thinner on the brush. It should only be damp, not fully loaded. If it is it will just remove all the oil paint in one wipe. I keep a cloth next on the workbench so I can wipe off the excess thinner from the brush.



Perhaps the most interesting effect is to make mud spatter with the help of artist oils.

I have a large flat brush which I have cut down the bristles to about a third of their length to get some more stiffness in it. Another tool that works well is a tooth brush which also have a good stiffness in it's bristles.

This technique requires a lot of experimentation when it comes to the consistency of the oilpaint.

If the paint is too thick you will get small lumps and if it is too thin it will be like airbrushing the model so experiment with different types of paint thickness and also with various tools to get to grips with this effect.

Another tip is to make some protective masks to cover those areas of the vehicle that you don't want the spatter on. I just cut some from regular printer paper and hold in place while I do the effect. The reason for this is that it behaves a bit like real mud spatter, you never really know where it's going to end up so it's better to be safe than sorry.

The same rule applies here as it does with the chipping. Use both light and dark colours to create life in the mud and also to simulate everything from wet to dry mud.

As I mentioned earlier, the thickness of the paint controls the appearance of the effect quite a bit. Having a thin mix will let you create small drops that will look like the spatter from when driving into a hole filled with some dirty water. A really thick mix is more like real mud and with this we can build up textured layers of muck and filth on the vehicle.

I would also like to recommend that a practise session should be had in order to learn how the effect works. The factors of paint thickness, strenght of the bristles on the tool we are using and the force we use to drag our finger over the bristles all play a part in how this effect will work so I will say it again, practice before you start working on your model.

With a little practice you should very soon be able to hit what you're aiming for.

To apply the effect is simple, load the brush or what ever tool you chose with plenty of paint. Then do a "test shot" on a piece of paper to check that the consistency of the paint is correct by dragging your finger over the bristles while aiming for the paper. If it looks ok you are good to go.



The number of methods for doing chipping effects are quite a few but I think one of my favourite low tech ways is with artist oils. It gives the same control as with hairspray but does not look as realistic since the edges of the chips are rounder compared to the hairspray version which have sharper edges but with some oilpaint straight from the tube and on a small brush we can still make some pretty convincing chips. Be carefullt not to use the same colour all over the vehicle. Alternate between some darker and lighter shades to keep it more life like.

Another good thing is if you make a mistake the oilpaint can be wiped off with a clean brush dampened with some thinner.



White glue is perhaps not the first thing that comes to mind when you are about to weather your vehicle but it is actually quite useful when you want to make thick layers of dry mud.

I use a standard white carpenters glue for this effect which I bought in the local hardware store. The bottle contains 1 litre of it and that should be enough for quite a number of vehicles. I also use this glue in a mix with wall filler and small stones and sand to make my bases and they become virtually indestructible thanks to the addition of white glue in the mix.

White glue is a slow drying glue that is great to work with for an effect like this. The first few minutes after being applied the glue stays wet and soft but after that it becomes more and more rubbery until it hardens. It's these first couple of minutes that we are going to take advantage of when doing this technique.

I have cut the bristles of a fairly large round brush which I use for all steps of this technique. The shape of the brush and the hard bristles are one of the key factors in order to succeed.

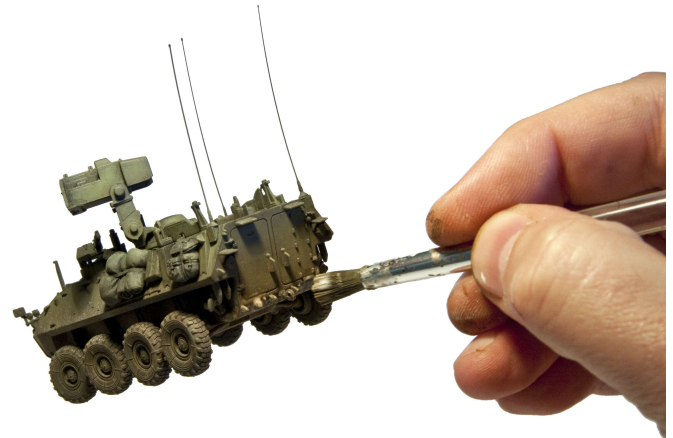
It's also very important that you wash the brush directly after you have finished the job otherwise the paintbrush will be ruined.

As the first step I grind up some pigments in various mud colours, ranging from light to dark and have them ready in separate cups on the workbench.

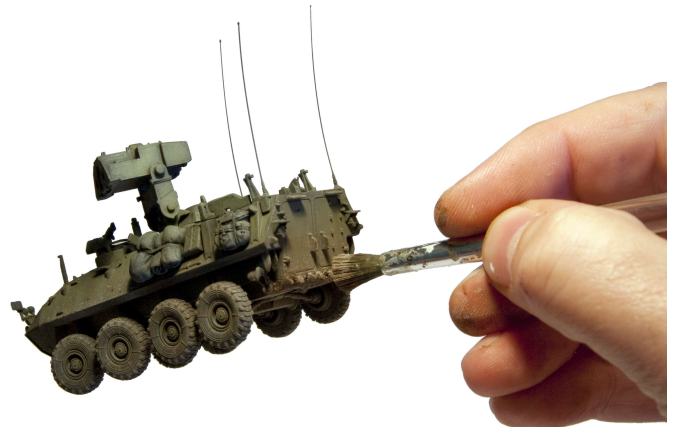
Then I start to dab on white glue on the areas that I want to build up the mud effect on. I use quite a lot of glue but I apply it carefully so I only get glue where it's supposed to be since it's a bit messy to remove if I by accident apply the glue to unwanted areas of the vehicle.

There's no time to sit and admire the nice and shiny white glue that has just been applied, the clock is ticking so I start right away to apply the pigments with the same brush as I used for the white glue. I stab the pigments into the white glue, quick decisive stabs, in and out. I also reload the brush with new pigments often and alternate between the different tones. As the glue dries, the stiff bristles of the brush creates a rough texture into the glue which is very similar to real mud.

Once dry I can leave it as it is or I can apply washes and varnish to make it look wet.



Here I apply liberal amounts of white glue to the rear of the vehicle.



Stab stab stab, This part has to be done very quickly since the pigments accelerates the drying of the white glue.



I keep on stabbing until I feel that the white glue has dried and that I can see the rough texture clearly.

To show some of the techniques I will paint and weather a 1/72 scale Revell Le Clerc which is a perfect vehicle for these kinds of excersises.

1. The first step is the black base coat.



2. The Forced Contrast technique is used to apply the green layer of paint. Note how visible the shadow effect is between and around the separate panels of the vehicle.



3. I have added some extra contrast to some of the smaller parts of the vehicle by using a brighter shade of green. This will however not be seen since the vehicle will be painted white.



4. Before the white paint is applied I airbrush two coats of hairspray which is left to dry for a couple of minutes, then the white is applied.



5. The white coat of paint is carefully damaged with a stiff old brush to create chips and scratches all over the vehicle.



6. Here I have done some detailpainting and added the decals. I never use gloss varnish for the decals, just a lot of patience and bucketloads of decalsoftener. Once they are dry I spray a coat of matt varnish over the entire model to blend them in.



Well so far so good. Now the model is ready for the next steps...





Now all the painting is done and we have a model that is ready for some weathering.

7. To tone down the very bright white colour I apply a very thin filter made from artist oils and low odour thinner. The colour I chose for this filter was Raw Umber because it both looks dirty when applied and pulls towards yellow.



8. Some Raw Umber and Buff Titanium artist oils straight from the tube was dragged vertically from top to bottom on the side armour and the sides of the turret with a flat brush dampened with thinner to create rainmarks and streaks.



9. With the airbrush I spray a very thin mix of a light brown Vallejo Air to dust the model. I concentrate on the rear of the vehicle but the rest gets a light coat as well. Even though the mix was very thin we can still see that the dusting has changed the tone of the vehicle further towards yellow which is where we want to go since the vehicle will be set in a very dirty environment.



10. Some panel lines and other details has been enhanced with some dilluted Vallejo black since the dusting with the light brown has lowered the contrast of the model a bit. I have also done some mudspatter in the rear of the vehicle using various artist oils. The running gear has also recieved it's first wash made up from Raw Umber and Lamp Black artist oils.



11. The last step is to add pigments. I've added these both wet and dry. The running gear gets a liberal wash with pigments mixed with window cleaning fluid and the rear part of the vehicle gets pigments sprinkled carefully on the sidearmor which then is fixated with thinner. Further adding of pigments with a large soft brush binds it all together.



This vehicle was because of my extreme impatience finished in just one afternoon so the end result can be much better if you take your time with each step and don't rush things like I normally do.

I wish you good luck with your future projects and I hope to be seeing some beautiful banged up and dirty vehicles in the near future.

Happy Weathering!!!



## The Fallen King



The King Tiger was painted using the Forced Contrast technique for the yellow and also for the red barrel. Several artist oil based washes were used to create the grimy look of the vehicle. The chipping and other damages were done with artist oils of various colours. The mud and dust are pigment powders which were applied both dry and wet.



## Bad to the Bones



The Panzer III was first painted using the Forced Contrast technique in a dark grey colour. Hairspray was used to create the very damaged sand yellow colour which was also applied using the Forced Contrast technique. Artist oils was used for making additional chipping and was also used as washes to make it more dirty. Dry and wet application of pigments was used to create the dust.



## The Pigs of War



The Sherman was painted using the forced Contrast technique and had several thin washes to create the "been through a lot" look. Pigments was applied both wet and dry with special care taken around the running gear to make it look really dirty.



Strv. 104



This Swedish tank is actually one of the few camouflage painted tanks that I've done. It started with a light green basecoat applied using the Forced Contrast technique and rest of the colours in the camouflage was brushpainted on. The dusting was done with both the airbrush and a small amount of pigments. A thin wash was applied to bind the colours together and to give it a dirty but still well kept look.



## Taking the Scenic Route



All vehicles were painted using the Forced Contrast method and the hairspray technique. Artist oils were used for washes, additional chipping and mud spatter effects. Pigments were applied both dry and wet for dirt and dust effects.