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Sd.Kfz. 251 Ausf. D

12th SS Panzer Div.

“Hitlerjugend”

France 1944

and 7.5cm PaK 40

Step-by-Step Finishing German Armor

By Glenn Bartolotti



A complete step-by-step guide to painting and finishing Armor Models and Figures

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Materials Used

The materials I use are very easy to obtain and simple to use. Most are inexpensive and found in most all art supply stores. Over the years I have learned to use these basic materials to obtain finishes that look very realistic. **Consistency** is very important and following each step is also very important to obtain the desired finish.

You will notice that in none of the steps will you see the method of dry-brushing. I do not like to use this method as some armor modelers do. I prefer a more subtle look in which I feel represents the look of a full scale armor vehicle.



I use a basic single action airbrush. Nothing special.



Note: Materials used for painting and weathering only. The figure seen in some of the photos used more paint colors than listed in this SBS.

The **paint** that will be used to airbrush is model will be Testors Model Master enamel paint: 2142 Flat White, 2005 Burnt Umber, 2102 Afrika Braun, 2091 Dunkelgrun, and 2007 Burnt Sienna. Gloss coat and Dull coat.



Sd.Kfz. 251 Ausf. D

The Sd.Kfz. 251 (Sonderkraftfahrzeug 251) half-track was an armored fighting vehicle designed and first built by Nazi Germany's Hanomag company during World War II. The largest, most common, and best armored of the wartime half-tracks, the Sd.Kfz. 251 was designed to transport the panzergrenadiers of the German mechanized infantry corps into battle. Widely known simply as "Hanomags" by both German and Allied forces, they were widely produced throughout the war, with over 15,252 vehicles and variants produced in total by various manufacturers.

On 6 June 1944, the Western Allies launched Operation Overlord, the invasion of Normandy. The 12th SS Division, along with the 21.Panzer-Division, was the closest Panzer divisions to the landing beaches, but they were unable to move until they got authorization from Hitler. The 12th SS was not ordered to the front until 1430 hours on 6

June, sixteen hours after the first reports of the landings. Prior to this Field Marshal Gerd von Rundstedt had ordered over half of the division to deal with a parachute landing on the coast near Lisieux which were found to be dummies from Operation Titanic. Kurt Meyer's SS Panzergrenadier Regiment 25 and Max Wünsche's SS-Panzer-Regiment 12 were the lead elements of the Division as it started for Normandy from their base to the west of Paris and South of Rouen.

The Division's advance to Normandy and the British/Canadian landing beaches of Sword and Juno was severely hampered by the incessant allied fighter-bomber attacks, the losses to Allied aircraft were not heavy, but the delays caused by wrecked vehicles were enough to destroy the Division's timetable. The first



units of the 12th SS finally reached their assembly area near Evrecy at 2200 hours on 6 June.

On 7 June, Kurt Meyer's SS Panzergrenadier Regiment 25, along with the II. Battalion of Max Wünsche's SS Panzer

Regiment 12, supported by artillery, were ordered to crush the advancing Canadian infantry and halftracks and drive through to the coast, still only a few miles away. In Meyer's words they were to "throw the fish into the sea".

1



1. The **kit** used is the Scale: 1:35
Producer: AFV Club Item code: AFV Club 35S47
This is an excellent kit from AFV Club that really does make the Tamiya Sd.Kfz.251 Ausf.D show its age with this kit incorporating some excellent details and the absence of pin marks is a notable feature. I used tracks from a DML 251 to represent the late war tracks.

Below I have added most of the supplies and equipment to the interior of the 251, if I can see it I can paint it! It will be detailed painted later in the steps. These items come from various kits.



2



2. The model is given a **primer coat** to cover and protect the photo etch parts and give the model a good base to start the paint process. I use a basic spray can primer that can be purchased at the local home store.

To the left you see I have attached the ammo cases on some masking taped and also primed it for painting.



3

3. The first step in the painting process is the **pre-shade** this is the darkest shadow color. 2005 Burnt Umber is used in this step. What you are trying to achieve in this is to make sure any areas that your light source cannot hit is painted. You are for the most part adding artificial shadows.

All the recesses, corners, tracks, and under objects that stand off the halftrack. It is also best achieved in some areas by painting the areas from under the halftrack as to just paint under the objects. The interior is also shaded.



4. Next step in the painting process is the **base coat** this is the main color. 2102 Afrika Braun is used in this step. This paint is used as I feel it is a better shade than Dunkelgelb because the later high-lighting and weathering processes will change its shade anyway. What you are trying to achieve in this step is to make sure you cover the areas that were not painted in the pre-shade painting. As you can see you don't have to worry about being perfect just make sure you can see the shadow for the most part and a blending effect is achieved.



4



5

5. Next step in the painting process is the **high-light**. This is the main color, 2102 Afrika Braun mixed with 2142 Flat White, mix 3/1 to lighten the base color. You want to add enough white to alter the base color and contrast is important in this step. What you are trying to achieve is to make sure any areas of your light source can hit is painted. This step will bring out your halftrack's details. Paint all the high spots, centers of any panels and the tops of objects that stand off the halftrack. Once again contrast is important!



6



6. Next step in the painting process is the **1st camo color**. 2091 (Dunkelgrün). This is the green shade of the camo pattern I paint this color first because the next red brown shade covers it better. In painting this step remember that the airguns used by the crews did not cover large areas at a time so make sure your airbrush is set to do a small spray which is usually achieved by turning the air pressure lower, and making sure your paint is thinned correctly. It is a good idea to practice first on some card stock.

7. Next step in the painting process is the **2nd camo color**. 2007 Burnt Sienna. This is the red brown (Rotbraun) shade of the camo pattern. I like this shade best for the red brown color. Again it is a good idea to practice first on some card stock to get your airbrush zeroed in.

7



8



8. After the Testors clear flat has dried completely the next step in the painting process is the **fading**. Fading helps tie the colors together, tone down the decal markings and get the halftrack the look that it has been in the elements. 2102 Afrika Braun mixed with Testors airbrush thinner 10/1 is used for this. Set your airbrush at a high pressure with a wide spray and make passes over the entire model, tracks and all. The more passes you make the more it will fade the paint. This step really ties things together!

9. The model is now given a Testors clear gloss coat only in the areas that the **decals** will be applied. As stated before I am using Echelon™ Decal set No. D356053. Micro Sol is used to set and flatten the decals. When dry spray the halftrack with Testors clear flat.



9



10



10. Next step in the painting process is the **tools and equipment** I paint all tools and equipment on the halftrack before final weathering. In painting these items study the way metal and wood looks in real life and add the colors into your paint to really get a good contrasting look and make sure you use various colors and shade as you can in each item. Most important don't paint items just one color or shade. I use acrylic paint but any paint you are comfortable with will work. The metal items are painted in dark shades, they will be treated with a metallic finish later.

The interior items are painted as well. If you can see them you can paint them. Thin washes are used to paint the items.



11



11A. Next step is the **wash**.

First I brush the model with clean turpentine. I put a dab of raw umber oil paint on a pallet, the oil paint is thinned with turpentine on the pallet and then applied to the model with a small brush. I do not want the wash to coat the entire model, it is controlled just where I want it. This is called a pin wash, apply to all of the surface details to create false shadows around each one, and any excess wash is blended into the surrounding surface once dry. I streak it down the sides like it would naturally, but care should be taken not to overdo this...be subtle.



11B. Once the body of the halftracks's wash has dried it is turned on its side and the road wheels and hull sides are given a wash. It is put on its side so the wash stays around the bolts and details not allowing the wash to drain down to the bottom of the wheels only. This gives all the wheels a even effect all around.

12



12. Next step in the weathering process is the **paint chips & scratches**. I add chipped paint with raw umber oil paint and a small brush. The key to chips are make them small and without any pattern, keeping them on the most abused edges and damaged areas. On older damaged areas first paint the chip with burnt sienna, then add the raw umber inside the chip so the sienna borders the umber. Use common sense and remember that less is more with chipped/worn areas, and think very small!

NOTE: Always use clean turpentine for each step!1



13. Next step is the **effects**. I use heavily thinned white, blue and yellow artist oil paint to give flat areas of the halftrack a look as though water that has mixed with dust and dried on the surface.

I paint the area with clean turpentine as before. I put a dab of oil paint on a pallet, the oil paint is thinned with turpentine on the pallet and then applied to the model as small dots of paint.

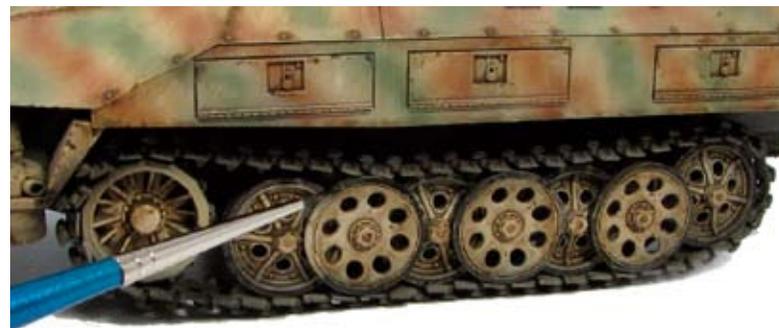
13



Blend well with clean turpentine and be very subtle.

Other earth shade oil colors can be used in this step to add other transparent glaze weathering effects.

14. Next the **road wheels** are given a wash of black oil paint thinned with turpentine. The wash works well because stark black rubber is not realistic.



14



15



15. Next step is **metal accents**

I use a no. 2 graphite pencil to add the metal accents to the raised parts of the tracks. I also add this to the areas you can see on the inner road wheels which rub on the outer wheels.

*The pencil is also used on the **metal tools**. Just highlight the edges of the tools and not the entire metal area.*



16. *I used pastel powder I made by sanding a pastel art stick into powder. The pastels are \$1.00 a stick at the art store and come in a large variety of shades. I use a file to grind them into powder.*

*A final dusting of earth colored pastels that I ground into powder are brushed into the parts of the halftrack to simulate the dust. **Apply the pastels dry.***

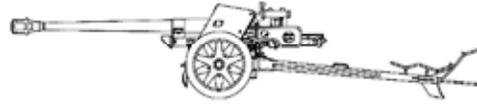
Do not over do the pastel dust, start with very little until you get the desired amount!

Use a Q-tip to wipe the pastel powder off leaving the dust in the cracks and recesses just like real dust and dirt.



16





7.5cm PaK 40



The 7.5 cm PaK 40 (7.5 cm Panzerabwehrkanone 40) was a German 7.5 centimetre anti-tank gun developed in 1939-1941 by Rheinmetall and used during the Second World War. PaK 40 formed the backbone of German anti-tank guns for the latter part of World War II.

Development of the PaK 40 began in 1939 with development contracts being placed with Krupp and Rheinmetall to develop a 7.5 cm anti-tank gun. Priority of the project was initially low, but Operation Barbarossa in

1941 and the appearance of heavily armoured Soviet tanks like the KV-1, increased the priority. The first guns were delivered in November 1941. By 1943 the PaK 40 formed the bulk of the German anti-tank artillery.

The PaK 40 was the standard German anti-tank gun until the end of the war, and was supplied by Germany to its allies. Some captured guns were used by the Red Army. After the end of the war the PaK 40 remained in service

in several European armies, including Albania, Bulgaria, Czechoslovakia, Finland, Norway, Hungary and Romania.

About 23,500 PaK 40 were produced, and about 6,000 more were used to arm tank destroyers. The unit manufacturing cost amounted to 2200 man-hours at 12000 RM. A lighter automatic version was used in the Henschel Hs129 aircraft.



The model used is the 1/35 scale DML 6433 7.5cm PaK 40 w/Heer gun crew.

The Pak 40 was painted and weathered at the same time as the halftrack using the same steps.



prime then, pre-shade



base coat



high-light



1st camo color



2nd camo color



wash



paint chips & scratches



effects



The rubber tires are rubbed with a rough cloth to take the shine off them. This keeps them from having to be painted.



pastel weathering

Finished Model



*Ammo boxes and containers
come with the DML Pak 40 kit.*



Finished Model



Figure is from Alpine



Stay Tuned!

Be on the look out for more **Step-by-Step Armor Finishing**



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