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**Sd.Kfz.251/1 Ausf D**

**Eastern Front 1943**

# Step-by-Step Finishing American Armor

By Glenn Bartolotti

**1/48 scale**



A complete Step-by-Step guide to Painting and Finishing Armor Models

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Painting and Finishing Armor Models

## 1/48 scale



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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 steps 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 modified the airbrush bottle syphon to fit Testors Model Master paint jars and Tamiya jars so I can spray the paint directly from the bottle without having to mix in a new bottle.*



*Materials used for painting and weathering. In this Step-by-Step Acrylic paints are used to paint the model showing the same results can be achieved with enamel or acrylic paints!*



*I use a basic single action airbrush. Nothing special.*

# Sd.Kfz.251/1 Ausf D

There were four main model modifications (Ausführung A through Ausf. D), which formed the basis for at least 22 variants. The initial idea was for a vehicle that could be used to transport a single squad of panzergrenadiers to the battlefield protected from enemy small arms fire, and with some protection from artillery fire. In addition, the standard mounting of at least one MG 34 or MG 42 machine gun allowed the vehicle to provide support by fire for the infantry squad once they had disembarked in battle. Positive aspects of the open top included greater situational awareness and faster egress by the infantry, as well as the ability to throw grenades and fire over the top of the fighting compartment as necessary while remaining under good horizontal cover. Downsides to the open top were a major vulnerability to all types of plunging fire; this included indirect fire from mortars and field artillery as well as depressed-trajectory small arms fire from higher elevated positions, lobbed hand grenades, and strafing by Allied aircraft. The first two models were



produced in small numbers from 1939. A and B model can be identified by the structure of the nose armor which comprises two trapezoids. The lower trapezoid has a cooling hatch. Production of the B modification from 1940 eliminated the fighting compartment's side vision slits. The C modification introduced into production in mid-1940 featured a simplified forward armoured plate for the engine. Ausf. A through C had rear doors of the vehicle bulging out. The C variant had a larger production run, but was a quite complex vehicle to build, involving many angled plates that gave reasonable protection from small arms fire. From early 1943, the Ausf D variant was developed

with a purpose of reducing the number of angled body plates by 50%, simplifying the design and thus speeding up the production. Ausf D can be easily recognized by its single piece sloping rear (with flat doors).

The standard personnel carrier version was equipped with a 7.92 mm MG 34 or MG 42 machine gun mounted at the front of the open compartment, above and behind the driver. A second machine gun could be mounted at the rear on an anti-aircraft mount.

Variants were produced for specialized purposes, including with anti-aircraft guns, light howitzers, anti-tank guns and mortars or even large unguided artillery rockets, as well as a

version with an infrared search light used to spot potential targets for associated Panther tanks equipped with infrared detectors.

Another potentially good design feature of the Sd.Kfz.251 was the large track area, with the characteristic "slack track" design with no return rollers for the upper run of track, and overlapping and interleaved main road wheels common to virtually all German halftracks of the period. This lowered ground pressure and provided better traction, giving the Sd.Kfz.251 better cross country performance than most other nations' half-tracked vehicles. The interleaved and overlapping main road wheels, however, shared a chief problem with the Tiger I and Panther main battle tanks that also used such roadwheel configurations - in muddy or winter weather conditions, such as those during a rasputitsa mud season or the coldest Russian winter conditions, accumulated mud and/or snow could freeze solid between the road wheels, possibly immobilizing the vehicle. *From Wikipedia, the free encyclopedia*



1. The **kit** used is Tamiya 1/48 Mtl.SPW.Sd.kfz 251/1 Ausf.D Item #32564



#### **About the Model**

1/48 Scale. Highly detailed plastic pieces molded in gray and tan, Distinctive form with angled flat surfaces accurately reproduced, Detailed interior and suspension, Assembly type tracks with one-piece straight sections, Includes accessory parts, Two figures included, Waterslide decals for 3 types of markings, Illustrated instructions. One decal sheet with markings for 3 versions: 1) Wehrmacht, Unit unknown, Eastern front, Winter 1943 2) 5th Panzer Div. "Wiking", Warsaw, August 1944 3) Wehrmacht, Unit unknown, Normandy, 1944



The kit comes with extra equipment so you can detail the interior a little more. Since I decided to add the tarp, I did not do any special interior painting.



2. The tarp was made using tissue paper that comes in new shoe boxes. It was cut to size and placed over the metal bars made from steel wire. White glue was used to fasten it in place. If you want to add detail like straps, etc do it now.

Next I mixed white glue and water in a jar. This mixture was applied with a brush to the tissue paper. Let this dry before the next step.



3



3. The model is given a **primer coat** to 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. This primer coat makes painting much easier because a smooth finish allows you to see the areas that will be shaded and highlighted during the following steps used to shade and high light the model.

4



■ ITEM 81710  
XF10 Flat Brown

4. The first step in the painting process is the **pre-shade**. This is the darkest shadow color. Tamiya XF10 Flat Brown is used. 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 half tank. It is also best achieved in some areas by painting the areas from under the tank as to just paint under the objects.

5



ITEM 81759

XF59 Desert Yellow

5. Next step in the painting process is the **base coat**. This is the main color Tamiya XF59 Desert Yellow. 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.

6



ITEM 81702

XF2 Flat White

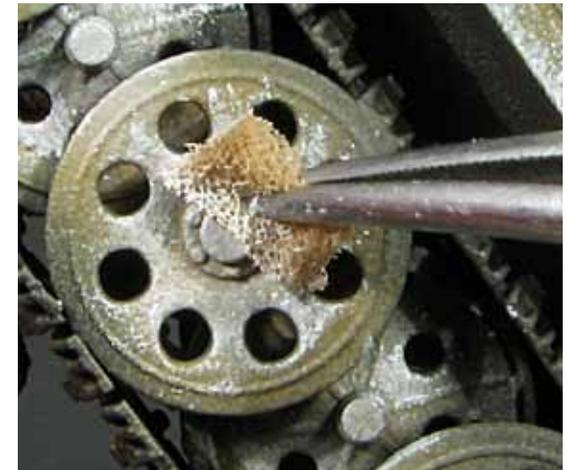
6. Next step in the painting process is the **white wash color**. Tamiya XF2 Flat White is used in this step. Paint all the high spots, centers of any panels and the tops of objects that stand off the tank. Cover most areas of the tank but leave areas like corners and cracks, indentions and the tracks unpainted. Contrast is important!



7. The model is now given a Testors clear gloss coat only in the areas that the **decals** will be applied. I used the decals included in the kit. (note the area left Desert Yellow where the greman cross is applied) When dry, spray the tank with Testors clear flat and allow to dry for about 2 days. A flat finish is very important to my step-by-step finishing.



8. Next step in the weathering process is the **worn white wash**. I add worn paint with white oil paint. I used a small make-up sponge. The sponge is press into the oil paint, wiped off and then onto the armor surface lightly. I cut a small piece of the sponge to get into the smaller corners with tweezers. Apply to the edges of the areas that are painted white in step 6.



9



9. The tarp is painted with a field green shade with acrylic paint. Let it dry.

10



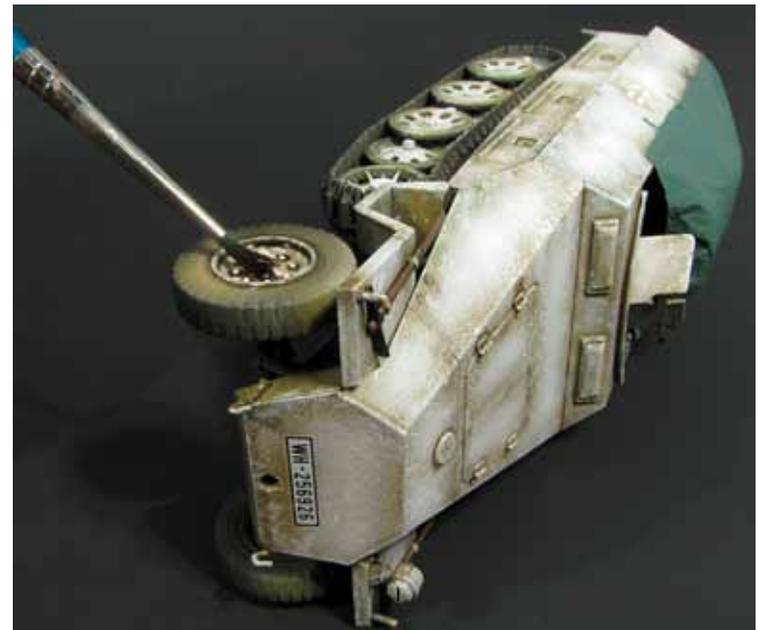
10. Next step in the painting process are the **tools and equipment**. I paint all tools and equipment on the 251 before final weathering. In painting these items study the way metal and wood looks in real life and add the colors into your paint to really get a good contrasting look and make sure you 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.



11. 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 were 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.



Once the body of the 251's wash has dried it is turned on its side and the wheels and road wheels 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 the wheels a even effect all around.



12



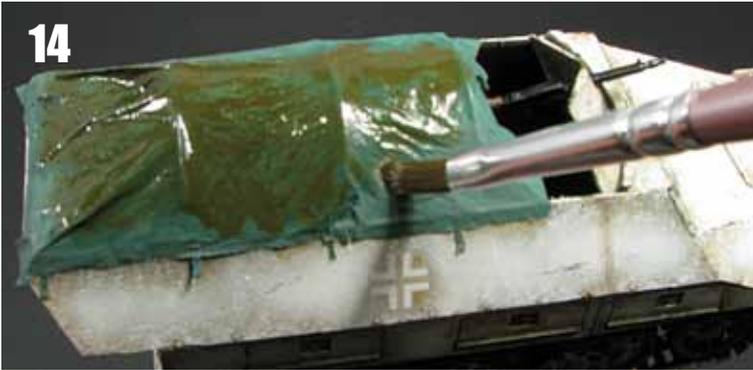
12. Next step in the weathering process is the **paint chips & scratches**. I add chipped paint with burnt umber oil paint. Again I used a small make-up sponge. The sponge is press into the oil paint, wiped off and then onto the armor surface lightly. I cut a small piece of the sponge to get into the smaller corners with tweezers. The key to chips are make them **small** and without any pattern, keeping them on the most abused edges and damaged areas. The more you add the more worn the paint finish will look. Use common sense and remember that less is more with chipped/worn areas, and think very small!

13



13. Next the **tires** are given a very thin wash of black oil paint thinned with turpentine. The wash works well because stark black rubber is not realistic. Let wash flow all around the tire, it's ok if the base color shows though.

14



14. Next I mixed flat Khaki brown acrylic paint with water. This mixture was applied with a brush to the tarp. The paint is applied in this washed creating a glaze effect.

16. Next step is **metal accents**. I use a no. 2 graphite pencil to add the metal accents to the metal parts of the tools. I also add this to the areas you can see on the drive sprocket teeth.

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

15. Next step is **wet pastel pigment weathering**. I use pastels in the same way you use pigments, but I make my own 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. I mix them with **turpentine** on a pallet and apply them with a brush. Make sure you thin the powder heavily because if not it will dry and cover to much, a little goes a long way! Apply this mixture to the tires.



16

The tires and tracks get a earth color **thinned heavily with turpentine**. Make sure you thin the powder heavily because if not it will dry and cover to much of the tracks, a little goes a long way!

Apply even more thinner mixture to the road wheels as well.

Pigments such as MIGs can also be used if you prefer. These pigment powders are ready to use. See ad on last page.



15



**Finished Model**  
**1/48 scale**



**Finished Model**  
**1/48 scale**



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**Armor Models**  
by Glenn Bartolotti



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# Stay Tuned!

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