

MASTERCLASS – AFV´S IN PANZER GREY

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1.- OBJETIVES

- **Get out of your comfort area!**

If you have come to this masterclass, it is because you want a new modelling experience. Maybe you´ll love it or perhaps hate it, but I am sure you´ll learn valuable concepts from it! Please, have faith in me and trust the process!

- **Extreme painting and weathering. Be prepared for an overdone kit.**

If you really want to have a complete modelling experience, please follow all of my steps completely. Maybe some of them will be the opposite of your way of modelling, but the only way to find the limit of your potential is to push the edge. Once you return to modeling in your home, you´ll be able to decide your limits and apply new skills and concepts according to your own taste and desired result for your kits.

- **Experiment and understand how each of the painting and weathering steps add value to your kit. Every layer counts.**

Each modelling step has a reason and a purposeful contribution to a cumulative effect. You must always follow a standard process with well-known steps to achieve the expected results. Improvising with materials and un-known techniques that you are not used to will not have a "happy end" until you practice and become familiar.

2.- LAWS

BASIC LAW: Objects reflect light in different ways depending on the angle of the surface exposed to light, the level of dirt and dust on the surface, and many other factors. Keep in mind that the absence of light is BLACK.

Other laws

- Law 1: Any and all weathering steps you apply will always darken your kit. Take this into account when you apply your base color.
- Law 2: All contrast you apply into your base color (zenithal, pre-shadowing, or modulation style) will decrease and become muted with weathering. Never be shy in early stages as contrast is critical.
- Law 3: Modelling is an activity of superposition, the more techniques and layers you apply, the more realistic results you´ll get.
- Law 4: Often products from nature and other disciplines are used. Be sure to protect all your paint and weathering layers with varnish from the products that will be used. A good primer is the basic first step in creating a durable surface.

3.- PAINTING THE COLOR PANZER GREY

Let's Get Started Go go goooooo!!!			
STEP	DEFINITION	WHY?	CAUTIONS
1	Primer.	Ensures that paint will not peel off during the following painting and weathering steps. Primer creates a neutral foundation over the kit, very valuable with multimedia kits that include plastic, PE parts, resin, aluminum, and wood.	Always use well proven modelling primers. Recommended: Tamiya and AMMO of Mig Jimenez.
2	Lighting your kit.	Under a vertical strong overhead light, study how the light affects the different surfaces of your kit.	-
3	No light – no color! Darkest pre-shadow.	-	-
3.1	Hull – Wheels: XF-72 JSDGF Brown + Black XF-1.	The hidden recessed areas of the lower part of any kit must be black (no light) or very dark.	Never use pure black! Remember: 60% thinner + 40% thinner. Pressure between 1.50 to 2.00 Kg/cm ² (20 to 30 psi)
3.2	Upper areas: XF-1 Black + XF-2 White.	All recesses should be painted as well as the lower areas of each plate according to Step 2.	Never use pure black!
4	Mud and dust! That is correct, no base color now. Use XF-72, XF-1, XF-2 and XF-57 and mix them in graduating stepped transitions, moving from dark to lighter colors.	Apply a general appearance of mud to the lower part of your kit. This general weathering color will be very helpful and will serve as a valuable guide once you choose the weathering colors for washes, oils, and pigments. Use the different shades of brown to achieve a rich and random mud appearance. Do not let your brain take control, it will always try to create symmetry! Do not worry about rubber rims and tracks as these will be addressed in later stages	Be careful when you choose earth colors. Take note that all of the colors referenced have no trace of red. Tamiya XF-52 has red and can't be mixed with other brownish colors without red such as XF-72. Remember this when you choose your oils, washes, and pigments.
5	Mask by placing Tamiya's tape over wheels and tracks.	Protect them from the Panzer Grey color to come. This will enable you to hold the kit while painting the upper surfaces, no matter where you place your fingers!	Reduce the adhesive capacity of the tape to prevent surface defects.
6	Medium grey XF-1 + XF-2. Apply a transition between the dark gray applied in 3.2 and the primer color	First transition between darkness and light. Try to apply this shade transition in a subtle way. A quality airbrush is the perfect tool for smooth transitions. A 50% Thinner ratio is recommended with 1,50 to 2,00 Kg/cm ² pressure (20 to 30 psi)	Just apply the intermediate grey around the darkest area, not over the entire kit. Primer color is a part of the B&W base!
7	Stepped transition procedure with greys! XF-1 % + XF-2 %.	Start by adding white to the basic dark gray from Step 6 in order to begin highlighting the different parts of your kit according to Step 2. At this stage, you can identify more attractive areas of your kit	If you're to shy, as Law 2 says, you'll lose all the contrast when you apply the panzer grey color.

		and be more aggressive with highlighting in these areas.	
8	Maximum light XF-2.	Highlight the areas with the most exposure to direct light with pure white as well as attractive areas. Use an 80% thinner and pressure close to 2,00 Kg/cm2 (30 psi)	Keep the transitions in place! A dark dray area can't be abruptly next to a pure white!
9	Maximum dark XF-1 + XF-2.	Reinforce the maximum darkness with 80% thinner and pressure close to 2,00 Kg/cm2 (30 psi)	Apply this step in a very subtle way! Be careful with transitions.
10	Panzer Grey. XF-1 + XF-2 + XF-8, XF-18. DO NOT USE a blue color with a glossy finish!	Apply the Panzer Grey color over all white areas with several thin layers using your airbrush thinned 85%! Pressure 1,50 Kg/cm ² (20 psi)	Airbrush must be moving continuously over the kit, never stop moving over the model! Be patient, several layers must be applied to get the desired color!
11	Panzer Grey mix + XF-2. Recovering the highlights.	Some areas may have become obscured by the base color, causing a loss of the desired contrast. This is the last chance you have to apply it! A thinner ratio of 85%! Pressure 1,50 Kg/cm2 (20 psi)	Keep subtle transitions!
12	Panzer Grey mix + white (AMMO of Mig Jimenez or Vallejo paints) highlighting details such as bolts, hatches, raised details, edges, and handles using your brush.	Some minor details can't be highlighted with your airbrush because of the small size. Make your mix with AMMO of Mig Jimenez or Vallejo paints and paint the details with a fine 0 or 00 brush.	The mix you make with AMMO of Mig Jimenez or Vallejo paints for your brush must be lighter than the general color (Step 10). With AMMO acrylics you can use the same paints for airbrush and brush. This is very valuable with other colors like Olive Drab and Dark Yellow and others as the equivalences between Tamiya and Vallejo are not perfect!
13	Painting accessories.	This is the right moment to do this because all the weathering you apply over a tank's surfaces also affect these elements! Use stepped transitions for rust colors on the tracks, the sponge technique is ideal for this stage.	Be careful and do not paint the surrounding areas! No problem if you have not glued the tools! Acrylic paint can be removed if you clean it quick using a cotton swab impregnated by your own saliva. Yes, it's dirty but it works!
14	Chipping. Use Step 12 mix for superficial chipping and A.MIG-044 or Vallejo 70.822. You can also make your own mix with red and black. Use a fine brush (Nº 00 or 0) and a sponge.	Chipping and scratches represent the real history and scars of your tank. Just think about the areas the crew uses to climb up the vehicle, the zones where they work to repair the tank, the surfaces more exposed to enemy gunfire. Always consider a nervous driver under fire, colliding with trees, walls, stones, and other vehicles. Always	Less is more! Be logical! Be asymmetric! You just have 50 dollars; 1 scratch means you must pay 1 dollar. So, think carefully were you apply them! The most realistic scratches and chipping come from a

		have real references on hand. Internet key words: chipping, textures, scratches, worn, wear, damaged, oxidized, and rust to name a few.	mix of sponge and brush! Only 1 method will look unrealistic!
15	Remove the masking tape on wheels	-	Do it with care!
16	Apply some Panzer Grey color (Step 12) over the wheels if you're not creating wheels full of mud and dust.	Do not worry if you see the grey color unrealistically applied over the mud color, at a later stage you'll apply mud colors over it so it will all go together nicely.	Be careful with the upper areas!
15	Airbrush X-22 Clear over your kit with a nice coat using thinner X-20A.	Protect your base color from oils, washes, and other aggressive weathering thinners and products. The general appearance of the kit will become darker and contrast will be reduced. Washes will run much better over a semi-gloss surface.	Do not use varnishes not specifically designed for modelling. The same applies to thinners!
16	Decals should be fixed to the surface with Micro set. Once dry, seal them with X-22 Clear carefully applied with your airbrush.	Decals are delicate and can be easily damaged by thinners and oils. Some chipping and wear over the decals are the best way to blend them into the surrounding surface.	Once dry, apply varnish over the decal and let it dry before applying the following steps. Try to dry the surface as much as possible before applying the varnish and beware of bubbles and silvering.
17	Washes with. Oils: Raw Umber + Black. Oilbrushes: Starship Filth. Thinner: White Spirit or Enamel Odourless Thinner from AMMO of Mig Jimenez. Apply over the recesses and around details with a brush, remove and clean after 10 minutes using clean thinner.	Will enhance all of the kit's details and will also darken the kit noticeably, reducing contrast. You can use several shades of washes depending on the deepness of the detail. For the wheels and lower hull, just use raw umber and if using AMMO Oilbrusher colors, add Starship Filth.	Do not let the wash dry forever! If you apply the wash over a surface that was not varnished, you'll not be able to remove it and risk damaging the paint. Never use turpentine to remove washes or oils as it is too aggressive!
18	Fading surfaces and Streaking. Oils (Yellow Naples, Raw Umber, Sepia, blue, white, orange, black, white) or the AMMO of Mig Jimenez Oilbrusher range. Oil dot technique: thinner over surface – oils dots (not many) – wait 10 minutes – blend and drag oils. Brush must be slightly dampened with thinner.	We'll create different effects over the tank's unique surfaces to apply a worn, dirty, and faded effect. Remember that you should not work on vertical and horizontal surfaces in the same way. On horizontal surfaces dust and dirt tends to accumulate and pool, while dragged and streaking effects appear on vertical surfaces. Zenithal effects can be reinforced using Sepia oil over lower areas of surfaces and Naples Yellow and	Do not place large dots, they must be small and applied with a N°0 brush. The surface must be slightly dampened with thinner. Wait 10 to 15 minutes, never let the oil completely dry or it will be difficult to remove, even more so when working on a matt and rough surface.

		White tones in the upper areas.	Excessive use of thinner will create an unrealistically glossy finish!
19	<p>Mud on wheels, lower hull, running gear, and tracks begins using the same dot technique. For the wheels and lower hull, simply use the raw umber and Naples Yellow for highlights. If you are using AMMO Oilbrushers, add a buff color to Starship Filth. You can use gradual tone shift with earth colors for a more attractive result. Wheels finished with black oil applied using the dry brush technique for rubber rims applied only to the edges.</p>	<p>This step will provide the necessary deepness to the general appearance of lower hull, wheels and tracks.</p>	<p>Remember, no reddish browns! Excessive use of thinner will create an unrealistically glossy finish!</p>
20	<p>Dust. Washable paints from Ammo, AMig0107 Earth, and AMig0105 Dust are just perfect to create dusted areas with your airbrush. Let it dry during 5-10 minutes and gently remove with a brush soaked with water.</p>	<p>Acrylic washable paints are a very useful and powerful tool to create dusted areas. They're not as aggressive as enamel paints that can be also be used for this work.</p>	<p>Work over the different surfaces one by one. You have to work pretty fast as when the paints become completely dry they're pretty complicated to remove!</p>
21	<p>AMMO of Mig Jimenez pigments Russian Earth, European Earth, Dust, and X20A Thinner or Pigment Fixer A.MIG-3000. Use a stepped transition to the tones by choosing and mixing related colors. Apply small amounts of pigments accurately into areas of accumulation, trying to use no less than two colors in each detail treated. Once the desired look is achieved, fix the effects by with thinner of Pigment Fixer using capillary action. Always create a random finish.</p>	<p>Wheels and tracks need some texture and more colors to emulate a more realistic appearance of the mud and dirt covering the undercarriage. More hidden areas will require darker pigments as well. Take note that the pigments chosen belong to a similar range of browns as XF-72, XF-57, Raw UMBER, Naples Yellow light oils, and Starship Filth Oilbrusher. If we were weathering a Sherman in Italy for example, were clay rich soils are common, use XF-52, Burnt UMBER, Naples Yellow, and other Oilbrusher colors with red in their composition.</p>	<p>Apply fixer with care by placing small drops allowed to spread by capillarity. Pigments should be applied in small quantities, building the effects little by little. Pigments are completely opaque and will hide any detail underneath. Fixer will slightly darken the pigment color. Remember to select pigments with logic, choosing colors without a red base! A common mistake when using washes and pigments is weathering wheels with different pigments and washes based in different color compositions which are incompatible.</p>
22	<p>Acrylic staining such as rainmarks, fuel spills, and the accumulation of dirt</p>	<p>Streaking is an effective way to create an attractive vertical surface with staining. To provide more</p>	<p>Paint must be very diluted as the surface color underneath must</p>

	should include a transitional range of highly diluted acrylic paints from buff to black brown used to apply subtle strains using a Number 00 brush. Similar step as streaking but with more defined lines.	“personality” and visually prominent effects to a specific feature, apply this technique only to the areas that are naturally subjected to drainage of rain, mud, mechanical fluids, and fuel.	be visible from below. Apply many layers of the highly diluted paint until you have built up the ideal result.
23	Rust effects. Create a gradual transition with a range of rust colors and apply them in the same way as shown in Step 20.	This step will add more richness and realism to the surfaces. Apply it over the previously chipped and scratched areas.	Can be addictive and unrealistic in excess. Be very careful here!
24	Bare metal. Some areas continuously under abrasion will show exposed bare metal without rust. Pigment applied with a cotton swab or a HB Pencil are both ideal ways to simulate this effect.	Strategically located areas with bare metal are a really attractive final touch for a tank. Commander’s ring and other limited and logically selected edges are ideal. Do not forget the drive sprocket teeth, guide horns, and outer track surfaces continuously touching the ground.	Be calm, it’s a nice result but applied in excess it will spoil an otherwise excellent and realistic model. Never use silver or aluminum color for this effect as it is too bright and out of a scale.
25	Matt varnish. Apply your matt varnish, Marabu, or Lucky Matt Varnish from AMMO over the areas that require a matt finish with your airbrush.	Tanks are not matt, but also are not glossy. Horizontal surfaces appear matt because of dust, while vertical typically appear satin. Unless you’re making a tank moving through fresh and wet mud, the undercarriage should also be matt.	Do not apply the matt varnish all over the kit! A slight difference of finish between vertical and horizontal surfaces will make a critical difference!
26	For matt grease effects, use Bitumen color, for fuel and add a little bit of black, for wet grease color with a drop of enamel glossy varnish (not acrylic!) or specific products from the AMMO set Engines, Oil, and Fuel enamel weathering set A.MIG-7402 to create these effects. Dilute the oil and apply the grease with small and in scale spots only to the areas where they would occur in real life such as close to the turret, wheel axles, in and around the engine, and moving parts. You can also make random strains if desired.	A tank is somehow a living thing, and as any machine made by humans, they tend to have failures, get damaged, fade, collect dirt, lose fluids, and leak with age.	Just use your common sense and be careful. A cap used for filling the real tank with water can’t have fuel spots around it! Please use quality reference materials and be informed about the small details of your subject. Grease and spilled fuel alone are not what makes a kit more realistic, but can make the difference and be an eye-catching detail when properly and accurately used.

CONGRATULATIONS!! YOU DID IT!!

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