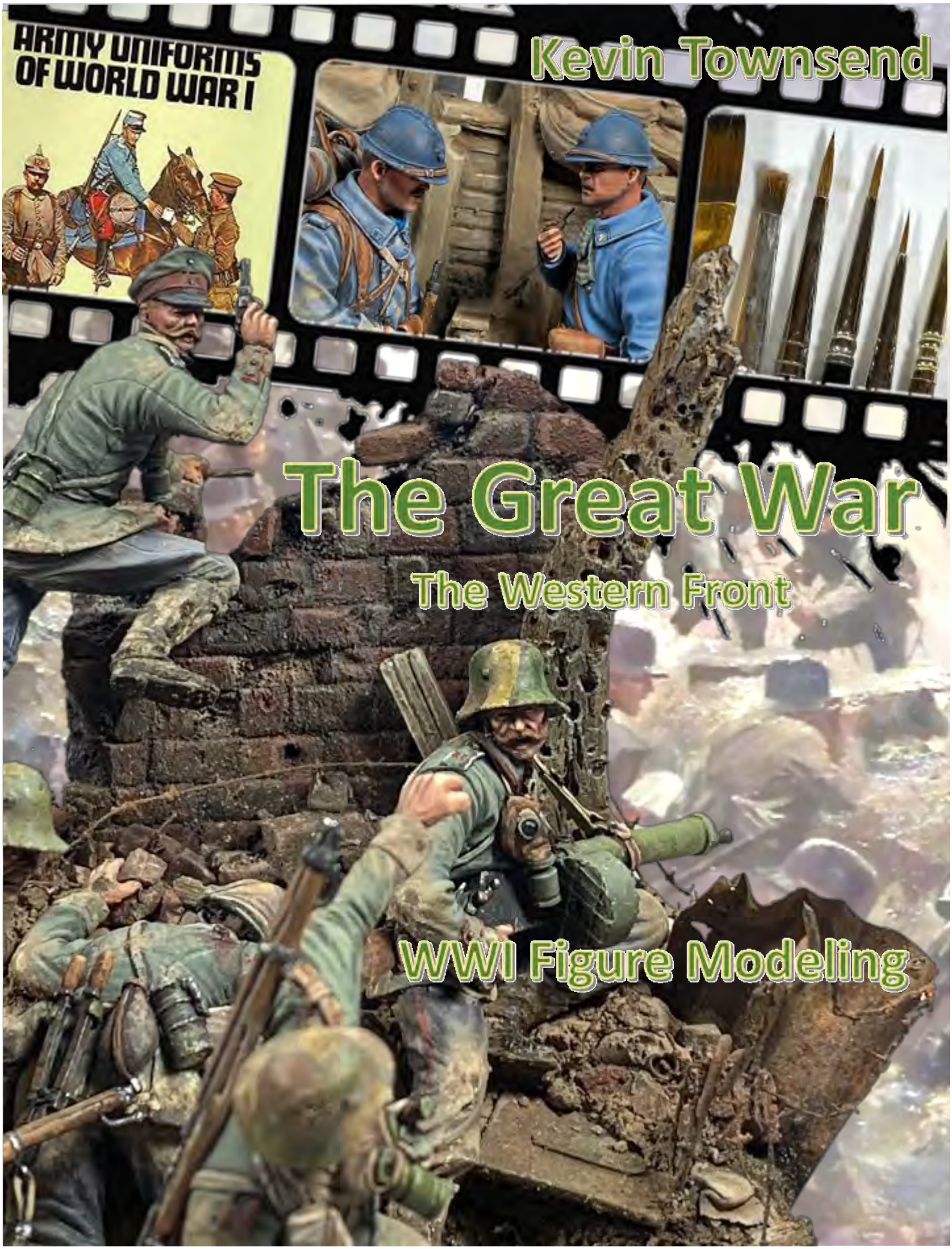
ARMY UNIFORMS OF WORLD WAR I
Kevin Townsend
The Great War
The Western Front
WWI Figure Modeling

!" 2026 Kevin E. Townsend!
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!
Kevin_townsend1961@yahoo.com!
!
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The above QR code links to Kevin's Google Docs page, on which can be found all his other works on figure modeling and 1/48 armor modeling."

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The Great War

The Western Front

WWI Figure Modeling

Kevin Townsend

THE GREAT WAR!

The Great War doesn't have a great reputation. When most people think of World War 1, they think of the trench stalemate, the futility of unimaginative frontal assaults doomed to failure, horrendous levels of casualties, gas, barbed wire, and mud. But while there is a grain of truth to this perspective (most myths, after all, do have fact as their basis), the story is actually much more complex and interesting.

On the Western Front, the war started as one of maneuver, but after a few months bogged down, with trenches and other defenses stretching from the English Channel to the Swiss border. These defenses started out rather primitive and easy to breach. All that would have been needed was more manpower and more munitions – especially artillery. But since all sides had bet on a short war, these were exactly the things they no longer had. By the time they did, the defense systems had become almost impervious to contemporary weapons and tactics. The generals had to learn as they went – nothing in their education, training, or experience had prepared them for what they faced. As they learned, technology advanced and weapons and tactics evolved. By the time open maneuver warfare returned in early 1918, modern warfare – the way we still fight to this day – had been largely developed.

I've heard it said that if you took a battalion officer from the time of Waterloo – 1815 – and transported him to August of 1914, he would understand the battlefield. Yes, weapons technology had advanced, but the parts and pieces – infantry, artillery, cavalry – were still organized and used in the same manner. But if you took a battalion officer from August of 1914 and transported him to August of 1918, he would be completely lost. None of the various parts and pieces were organized or operated the same. However, if you were to transport a battalion officer from 1918 to either of the recent Gulf Wars (or, indeed, to Ukraine), the aircraft fly highest and faster, and the tanks are arguably cooler... but they would understand the battlefield.

Of course, the Eastern Front was too large for such a trench stalemate to form, and the war remained one of maneuver throughout with some advances and retreats being hundreds of kilometers. But as the German Chief of the General Staff, Erich von Falkenhayn stated, "The East gives nothing back." A 100 mile advance would simply put an army 100 miles closer to the middle of nowhere.

Not only did World War 1 basically invent modern war, it redrew maps. Great empires such as the Russian, German, Austro-Hungarian, and Ottoman collapsed. The war was fought not only in Western and Eastern Europe, but in the Middle East, Africa, and across the world's oceans. Without World War 1, there is likely no rise of fascism or communism, no Nazis and probably no World War 2 – at least not the way it happened. World War 1 largely shaped the rest of the 20th Century, and much of its aftermath is still felt today.

From a scale modeling perspective, World War 1 arguably gives us more scope and variance than almost any other conflict. Uniforms range from the nearly Napoleonic to the almost modern, helmets gradually replaced caps, and equipment like gas masks became standard. The nationalities involved and the terrain fought over give us an almost inexhaustible range of possibilities. We also have (admittedly somewhat steampunk) tanks, aircraft, ships, and other vehicles. At the war's start, tanks did not exist. By the end of war, we had the first "modern" tank in the French FT-17 with its main armament in a fully rotating turret. Aircraft at the start of the war were little removed from the Wright Flyer. By the end of war, there were dedicated fighters, reconnaissance aircraft, and even multi-engined bombers. The world even witnessed the first instances of strategic bombing of cities—by both airships and aircraft. This technology operated alongside horse cavalry and horse-drawn vehicles and guns. The war at sea was significant, with submarine warfare and commerce raiding taking place alongside major fleet actions. The Battle of Jutland is the largest clash of battleships in history. Germany's submarine campaign against Britain was actually more effective than their campaign in the Second World War! No matter what kind of stuff you like to study or model, the Great War gives us great opportunity.

Welcome to this compilation of World War 1 figures, busts, vignettes, and dioramas. I build and paint across all genres—historical, sci-fi, fantasy—and all historical periods. But, for reasons listed above, World War 1—the so-called "Great War" - is one of my favorite eras for both modeling and study. My library likely has more titles dedicated to WW1 than any other conflict.

In this volume, we will look at my basic miniature modeling methods. As this is a modeling manual and not a history book, we will only review historical data to the extent required to give a basic understanding of the subjects—mainly explaining why I made the modeling choices I did. The order of presentation of the pieces in this work does not follow chronological order. These pieces were created—and documented—over a number of years, and what I focused on with each build does not lend itself to such an arrangement. Instead, we will look at modeling subject matter. In Part I, we will look at basic concepts. Part II will demonstrate these concepts in actual practice with several builds that show my methods. Part III will simply provide additional examples of techniques already discussed. Simple extra detailing methods will be addressed as needed for each build. Groundwork—ranging from simple to complex—will be covered as appropriate for each featured build. After all, the earth itself is a key component of WW 1. We will also look at compositional choices.

All of these builds herein feature resin figure kits by Model Cellar. I am not associated with this company, but I do like their figures, and they are a great company to deal with. Model Cellar markets a great many figures from the WW1 period - a special area of interest for them. As a whole, it seems many makers ignore or minimize this period. While I have built and painted several WW1 figures from other makers (as well as sculpting and scratch-building my own), most of my Great War subjects are from Model Cellar, and those provide enough examples to thoroughly cover my basic methods.

This is not my first work on figure or armor modeling. Available on my "Google Docs" page (for those who have the app), are (at the time of this writing) nearly 50 volumes on figure modeling. In fact, many of the figures featured herein can be found in that series, and some are provided with more coverage in their dedicated volume than I give them here. Also available are a multi-volume series of 1/48 scale armor builds and a multi-volume series of 1/48 Sd.Kfz 251 builds. A few other articles including an in-depth look at my compositional methods—my "Ten Commandments of Effective Composition" - can also be found there. I enjoy documenting as much as building!

I hope all of you, regardless of your current skill level, find something of use—a method you wish to try, inspiration, or even just simple entertainment. Please feel free to share with others whom you think may find the work useful. I hope to see you at the shows!

Please contact me with feedback, questions, or suggestions. I'd love to hear from you. As of this writing (Fall 2026) I can be reached at:
kevin_townsend1961@yahoo.com

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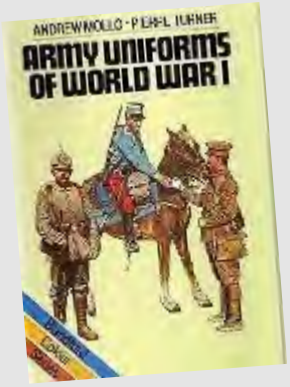
I do a great deal of research for each historical figure I create. I need to know details of uniform and equipment so that I can make a correct depiction, but I also want to know more about the nation, army, campaign, and actions I am recreating. Knowledge provides ideas and inspiration! The pieces herein are no exception.

Plenty of information (ranging from outstanding to delusional) can be found on the web, and I referred to many sites. Many of the historical images, in fact, came from Google. But I prefer references I can hold in my hand. Books. Two useful books are shown below. The old Blandford Color Series book "Army Uniforms of World War I" provides information on nearly all European armies in the war and is illustrated with over 100 color plates. Brassey's "World War One German Army" is a great resource for the Germans—the information on uniform and equipment of all branches is quite complete.





My most used references, however, were books from Osprey Publishing. Their "Man At Arms", "Elite", and "Warrior" series titles contain information about different units/armies backed up by several color plates. Other series, such as "Campaign" contain good background information. The "Combat" and "Duel" series' provides good comparative information about opponents in combat. Some of the titles I used for uniform and equipment information include the following. There are plenty of other titles covering other combatants.

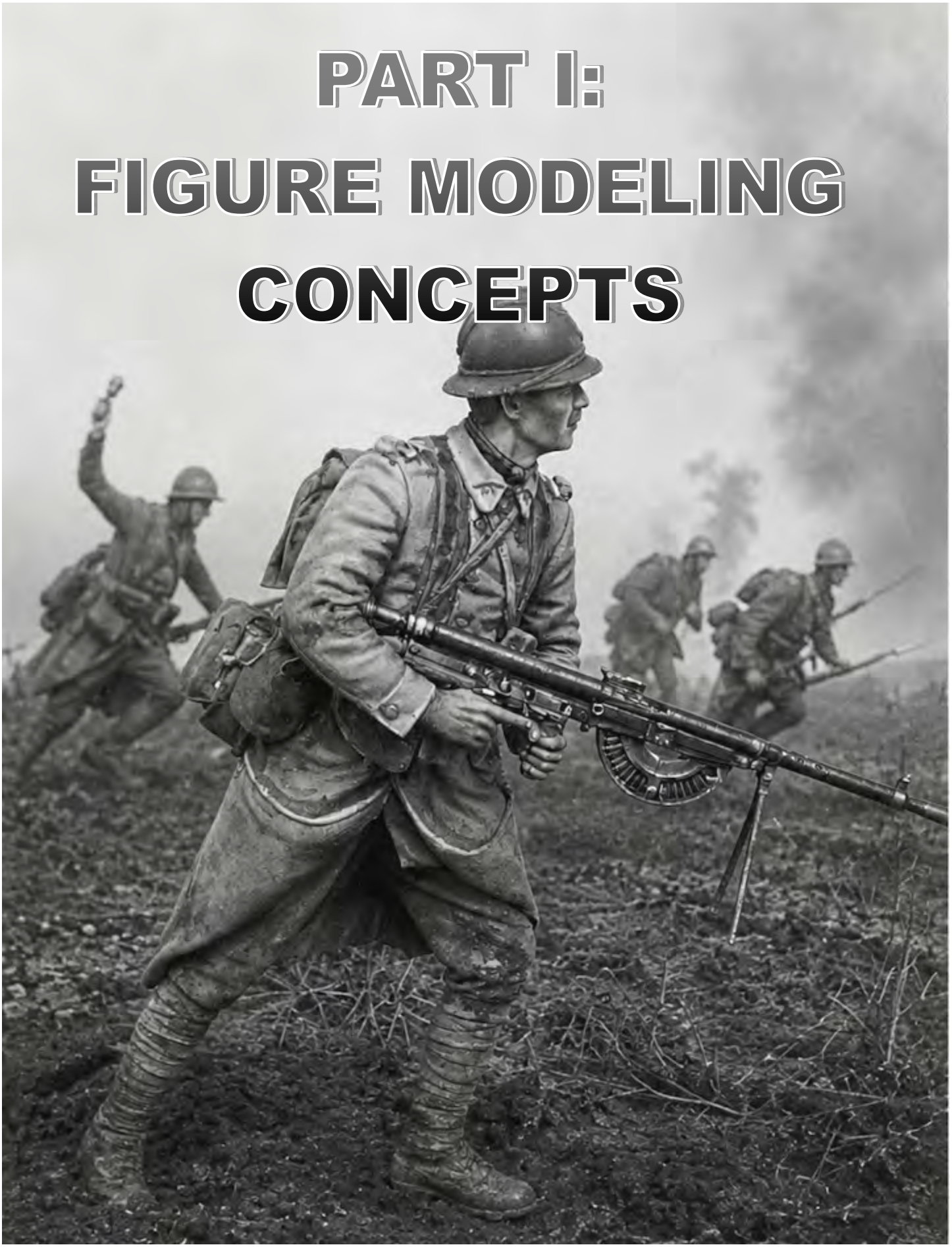
-The German Army 1914-1918
-The German Army in World War I (1-3)
-German Stormtrooper 1914-18
-German Air Forces 1914-18
-The British Army 1914-18
-The British Army in World War I (1-3)
-British Tommy 1914-1918
-The French Army 1914-18
-French Poilu 1914-1918



Memoirs can be useful for background and details. In fact, most of the detail included in my "Storm of Steel" diorama came from the memoir of the same name by Ernst Junger.

At least 50 other WW1 titles on my bookshelf provided general and background information. While sitting at my bench working, I also listened to or watched many lectures on the First World War from the National World War I Museum or the Western Front Association on YouTube. Most of the speakers are recognized experts and the subject matter/presentation is usually quite good. In addition to providing background, these also provided motivation. Speaking of YouTube, the "Great War" channel is also a great source of information—in general and also on specific subjects and topics. Drachinifel's channel is a great source of information about the war at sea and the ships that fought it.

PART I:
FIGURE MODELING CONCEPTS

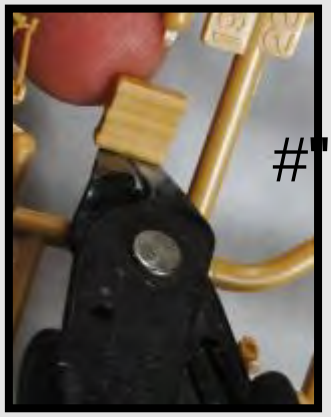


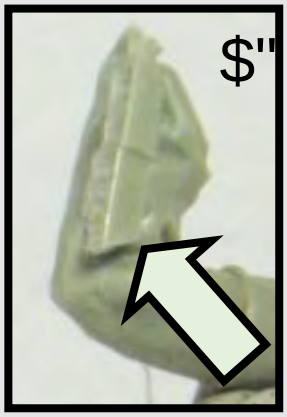
My assumption when I compiled this work was that you, the reader, would already have at least a basic understanding of miniature modeling methods. For those who may not, this "Part I" provides a basic (very basic) look at my methods. For those of you who may be old pros, this section will give you an understanding of how I define and use certain terms and techniques.

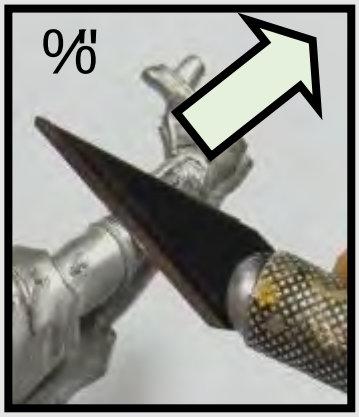




Above Left: To build a simple figure, only a few basic tools are needed. The most important is a hobby knife with a good, sharp blade. I use a couple with different blade types. Some sanding sticks can also be very useful. As I like to reinforce the joints between heavy and/or load-bearing parts, a wire cutter is needed to cut the pins. A pin drill and a selection of drill bits is used to drill the holes. We also have to glue the pieces together. Plastic model cement is good only for styrene parts. For most parts, I prefer to use a two-part (resin and hardener) epoxy glue such as JB Weld or the faster curing JB Quick. For small or lightweight pieces, superglue can suffice. Above Right: While I consider this the minimum tool kit, there are others you will find useful or, at times, necessary. These include a selection of needle files, razor saws, tweezers, scissors, and a selection of tools for working with putties and clays (we'll look at putty tools in a bit). Other useful, but much more expensive tools, include a motor tool (I would be lost without my Dremel) and an airbrush. While the latter is not overly useful for most figures, it can be a great time saver for very large figures, models, and even groundwork. As for the Dremel, you can do anything it can do with hand tools—it just can do the tasks quicker and easier. There are also plenty of other specialist tools available. As you grow in the hobby, your experience, needs, and inclination will determine your choice of tools and materials. I've bought many over the years because they were "cool"… but I find I always use the same few. Why? Because they work, and they meet my needs.









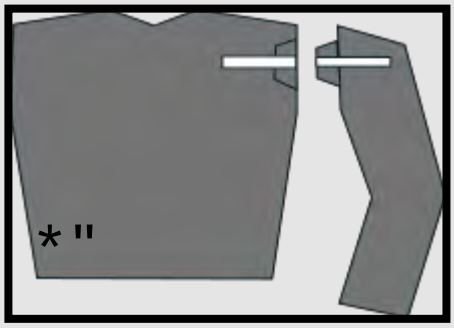
Before assembly, prepare the parts. This process is dependent upon the material. 1. Plastic pieces must be clipped or cut from sprue trees. While a sharp hobby knife can do, I prefer a sprue cutter. Any remaining nubs can then be carved, sanded, or filed away. 2. Resin parts may have mold pour blocks that need cut or carved away like this one on the back of an arm. These can be small or substantial. Depending on how big, a knife, razor saw, or even a Dremel Motor tool can be used. Do NOT breathe the dust—it is toxic. Sometimes, these blocks unfortunately cover detail. Take care when removing them. 3. Many pieces (metal, plastic, and resin) have mold part lines where the halves of the mold came together. These may be fine and barely visible, but they <u>will</u> show up under a coat of paint. Some can be removed by gently sanding. As seen, you can also scrape <u>backwards</u> with a hobby knife. 4. 3D printed parts—almost unheard of a few short years ago and now very common, usually come with printing supports—often complex webs of these—attached to the parts as seen on this skeleton.. These should be carefully snipped away rather than broken off . Make sure you removed only support and not detail!.

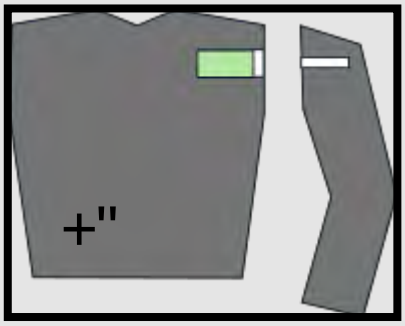


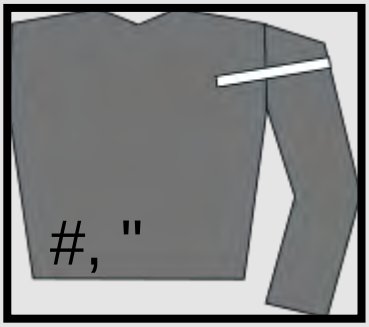




5-6. After removing the supports from 3D prints, small nubs or divots may be left behind. These can often be carefully sanded away. Some divots may require filling with small dots of thick superglue (and then sanded smooth). 7. Except on high-quality prints, you may also have mold layers to deal with. When fine enough, light sanding may remove them.







I like to pin parts together for greater strength. There are several ways to do this. 8. Mating holes are drilled in each part, and a pin (normally a length of paperclip wire) is glued in place. 9. If fit of the parts is more vague, I often drill one hole to fit the mating pin and the other hole substantially longer. Then, epoxy putty is put in the large hole and the pinned piece is pressed in place, creating a perfect, exact fit. In both of these methods, the pinned part can be left separate for painting. 10. Often, I glue the parts together, and then once cured, drill a hole from the outside and install the pin. The outside of the hole can then be filled with putty or a bit of epoxy glue.





11. I also mount pins well up into the legs to pin the figure to the final base. 12. If there are gaps after gluing, these can be filled in a variety of ways. For small gaps, a bit of excess epoxy can be squeezed into the gap and smoothed with a damp finger. For large gaps, filler putty may be needed. I prefer epoxy putty like Magic Sculpt. We will look at some of the basics of using epoxy putty in a bit.



A final step before painting is to prime the figure with a purpose-made primer to give the paint something to stick to. Whatever method and product you use is up to you. In Part II, we will detail how I approach priming.

Your most important painting tool are your brushes. Your painting can only be as good as your brushes. For most figure painting tasks, I use the brushes shown: a small and large flat brush, and a series of round brushes from largest to smallest—#2, #1, #0, #2/0. I generally use the largest brush practical for each painting task. A tiny brush isn't necessarily the best choice for tiny details—the sharpness of the brush point is what matters. A tiny brush also has a tiny body, and therefore cannot hold much paint. With acrylics, this means the tiny amount of paint on the brush can dry before it is applied to the model. It is also hard to get good, smooth, feathered blends with a tiny brush.

BASIC PAINTING CONCEPTS!

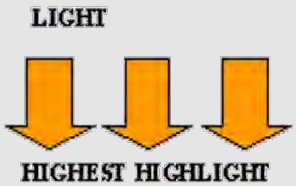


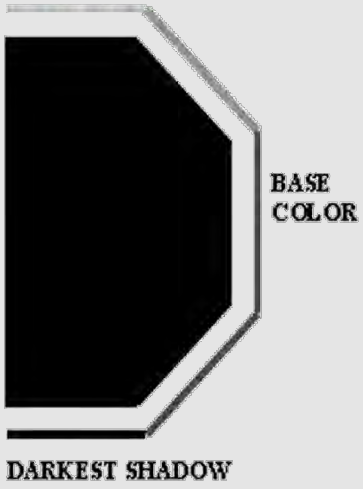
When painting, there are a couple basic concepts to keep in mind.

I paint most figures as if they were lit by **OVERHEAD LIGHTING***—like being outside at noon on an overcast day. This is often referred to as "zenithal lighting". When painting parts separately before assembly, or when painting different figures of a multi-figure vignette or diorama, make sure the lighting on all parts and figures is consistent, i.e. the same intensity and coming from the same direction.*

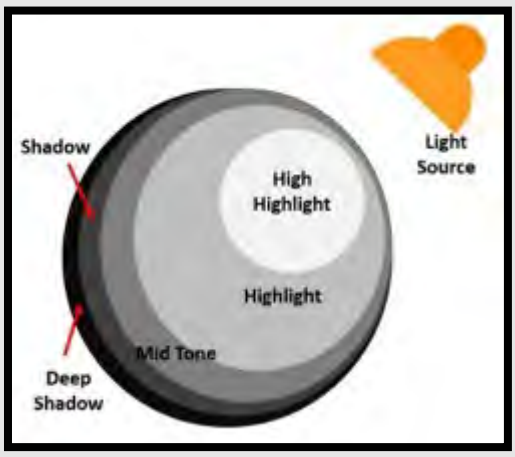
Another important concept is what I call **SCALE LIGHT***. Our brains use highlights and shadows to help judge distance, shape, texture, etc. When we look at people they are life-size and so is the light. But with miniatures, the light source is still life-size while the figure is much smaller. Therefore, we must "scale-down" the light to provide the same visual clues to our brains. That is why painted highlights and shadows enhance the realism of a figure. It's the same concept as making a circle drawn on a piece of paper look like a sphere just by shading certain parts of it. The larger the figure (and therefore the closer to life-sized) the more gradual and subtle these highlights and shadows must be to appear realistic. This effect gets more pronounced as figures get smaller—more contrast between light and dark is needed on small scale figures to achieve the same effect.*

SCALE DISTANCE *refers to the fact that looking at a miniature is like viewing the real thing from farther away. If an item couldn't be seen at that distance on a real figure, it doesn't need to be painted on the miniature. For example, on large scale figures, we must paint all details of insignia and buckles. In smaller scales, the mere impression of detail is often enough.*





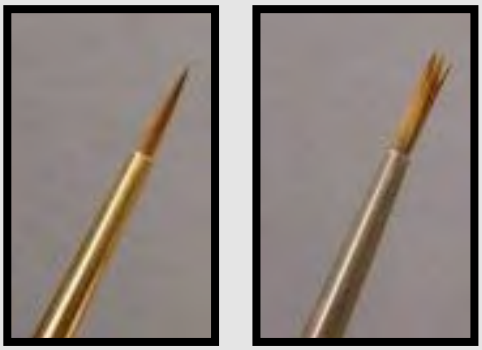
Top Right: The concept of "Overhead Lighting" is well illustrated with this Dragoon. Highlights and shadows fall as if the figure were lit from above. This also illustrates my concept of "scale Lighting" - those highlights and shadows are, for the most part, simply painted on. Below Left: Shep Paine's "Stoplight Rule" show us where shadows and highlights fall relative to the light source. This is how we "scale down" the light—what I call the "Concept of Scale Light".



This graphic shows the acrylic painting process. Assume the ball is our "figure" and the light source is the "overhead lighting" we wish to use. We would first paint the object in the mid tone, or base color. In this instance that is medium grey. Over this, glazes of lighter grey and white are successively added to provide the highlight. Unlike here, where the demarcation between values of color is stark, we would "feather" or blend the paint on our item using a series of semi-transparent glazes. Shadows and deep shadows are painting in the same way using darker grey and black.



My general process is to apply a base mid-tone color to an object followed by highlights and then shades applied as glazes. An example is the Dragoon at top. The highest highlight are painted on upper facing surfaces, the midtone on perpendicular surfaces, and deepest shadows on bottom surfaces. Intermediate highlights and shades are used on other surfaces. The relative darkness or lightness of a color is called "value". Above we see a sample value scale where "3" is our base color.. To accomplish all this, there are many different ways we can apply the paint. The main ones are defined below. The type of paint you use is up to you. Just make sure you use the correct thinner, and do not mix different types together. I prefer water-based acrylics for most applications. We will look at these shortly. I also often use acrylic inks, enamels, oil paints, and even pigment powders



Take Care of your brushes! Above are two #1 brushes. Clearly, the one on the left can be used for finer details.

GLOSSARY OF TERMS AND TECHNIQUES!

There are several different techniques we can use to accomplish all these various base colors, highlights, and shades as well as very special effects.

LAYER: *This can apply to any layer of paint, but specifically it refers to an opaque (or nearly so) layer of color normally used for base coating and perhaps for some highlights and shadows—at least initial ones. The paint is thin enough to flow from the brush without leaving brush marks. It normally takes two or three coats to build up to full opacity.*



Here we see a fairly opaque base coat (far left) made up to a couple layers and a thinner glaze (near left) applied to an index card. Note how the glaze is semi-transparent, allowing the lines of the index card to clearly show through. The base coat layers are normally about 3:1 or 2:1 paint and water—thin enough it takes 2 or more coats to get the result. A glaze is about twice as thin or even more. But these are just general guidelines—each paint, color, desired effect, and even figure are different.

GLAZE: *This is a thinner semi-transparent or transparent application of paint. Glazes are usually used to create highlights and shadows over a base color. They are applied as seen at right. Thin the paint to the desired thickness, load the brush with paint, then touch the brush to a piece of paper towel to wick away excess liquid. Then the thinned paint on the brush can be applied as normal.*





WASH: *This is a very thin application of paint. It can be thinner or thicker than a glaze. Note there are no clear demarcations between layers, glazes, and washes. The difference is the intent and the application. With a wash, the excess liquid on the brush is not wicked away, being allowed to flow over the surface, depositing the paint in the recesses.*

FILTER: *These are extremely thin glazes that simply slightly tint a color rather than alter it. I often use them as "blending glazes". Some modelers refer to them as "veils". They can be used for blending. For example, if the transitions between highlights and shades are too abrupt or stark, thin filters of the base color can help to "visually blend" and soften these areas. They can also be applied over larger surfaces to create some subtle color variation.*

BLENDING or FEATHERING: *Acrylic paints dry too quickly to blend together on the model like oil painters do. However, by mixing "extender" into the paint, you can slow drying time allowing you to "wet-blend' the colors directly on the figure. You can also gently thin out the paint toward edges, manipulate the paint, or use filters to blend adjacent colors together. Oil painters often paint the highlights, midtones, and shadows using different values of the same color and then gently blending them where they meet using a clear brush.*

DRY"BRUSH: *This is a technique used to pick out only the high points of an object. A flat brush is ideal for this method. With the end of the bristles, pick up only a small amount of paint. Wipe the brush on a piece of paper towel to remove most of this. Then lightly drag the brush across the surface, just touching the high points, depositing small amounts of paint. This method is often used (overused) by armor modelers but has less application with figures. Still, on rough surfaces, it can have some utility in creating textures.*

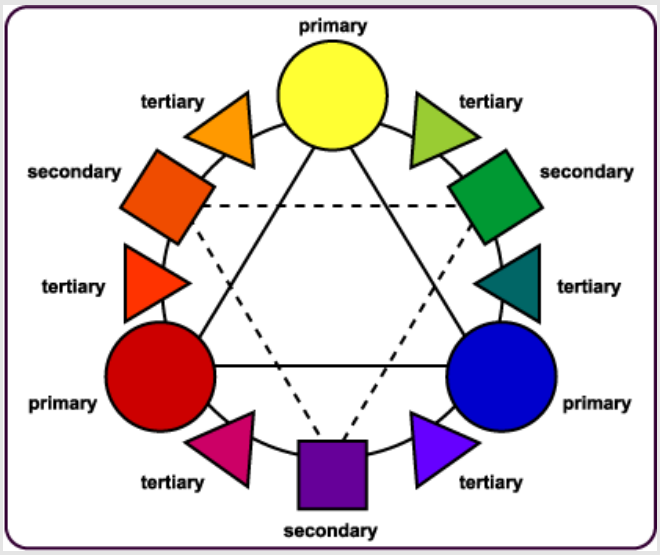


STIPPLE: *This is a method where the point of the brush is used to jab or stab repeatedly to deposit paint. This can also be done using a bit of sponge to dab and dot the paint into place. It is a useful method for applying texture or creating some chipping effects.*

EDGING and OUTLINING: *I generally apply my highest highlight only to edges such as the tops of belts, pocket flaps, collar and cuff edges, etc. I use my deepest shadow (black or nearly so) to outline these edges and other joints. This edging and outlining really serves to make detail "pop". This can be clearly seen at right. Clean, distinct edges help make our figures easier for a viewer to "read".*

READABILITY: *Readability is an important goal. It is "The ability to clearly distinguish the form, details, and features of a model or figure from a normal viewing distance". Readability is one of the most important aspects of our painting. We achieve it by having good CONTRAST (lights and shades), WELL DEFINED ELEMENTS (outlining and edging, variation of colors and values, depicting texture, etc.), and CAREFUL EXECUTION (neatness). Again, much of this can be seen in the detail of the figure at right.*

BASIC (VERY BASIC) COLOR THEORY!



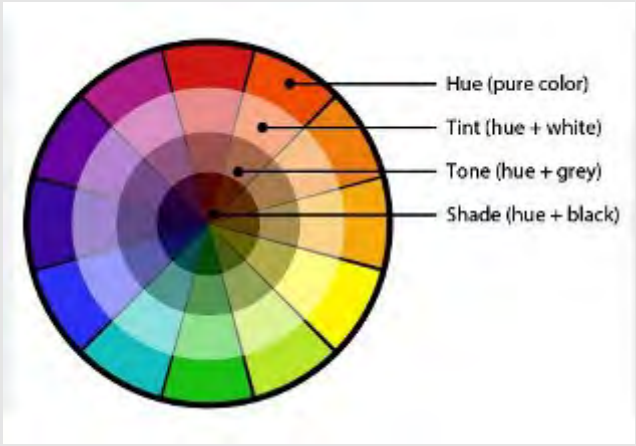
In this segment, we will only look at a few aspects of color theory. Having a good understanding will help you with selecting a pleasing color scheme, mixing colors, and achieving certain effects. I recommend getting a good color wheel and learning how to use it.

-Colors Primary colors cannot be derived by mixing other colors. All color combinations come from them. Depending on the type color wheel you use, these are either Red, Blue, and Yellow or Magenta, Cyan, and Yellow. Here, we will use the former type. Secondary Colors created by mixing two primary colors. They are orange (red + yellow), green (yellow + blue) and purple (red + blue). Tertiary Colors are created by mixing a primary and secondary color.

"Neutrals are technically not colors and cannot be mixed from other colors. These are white (the absence of color) and black (the presence of all colors). For practical purposes, we can include grey and brown as well. While these can be mixed, I've found it easier to have a few different browns and greys and mix others I need from them. In theory, browns can be created by mixing complimentary colors.

"Complimentary Colors are opposite each other on the wheel, for example purple and yellow, red and green, or blue and orange. When placed beside each other, they create the highest contrast, but when a color is mixed with its compliment it appears more subtle or muted. These colors can be used for shading. For example, purple is a great color with which to shade yellow.

"Warm and Cool colors can be used for certain effects. Warm colors are from the red side of the wheel, and cool colors from the blue side. These can be used to help convey emotion or even temperature (a winter or emotionless scene would have lots of cool colors while a passionate or aggressive scene could use warm palette). There are uses as well. For example, warm highlights and cool shadows are a good combination to use.



-Hue, Tone, Tint, and Shades refer to how a color is modified. Hue is the pure color. Tints are created by adding white. Shades are created by adding Black. Tones are created by adding grey.

"Saturation is the intensity of a color. As saturation increases, the color appears to be more "pure" and vivid. As saturation decreases, the color appears to be more washed out, greyer, or paler.

In theory, if you had the three primary colors, plus black and white, you could mix everything else you need. But in reality, it's better to have a wider selection of colors (such as a couple browns, greys, and even greens). You can even buy premixed paint sets that include all the needed base, highlight, and shadow colors of a particular hue. Still, there will come a time when what you need isn't readily available, especially when using several values of the same color for shading and highlighting. It can be far easier to mix these from a single base color than to try and match commercial colors. Why? Because when mixing highlights and shadows for a particular color, we generally want the hue to stay the same—generally only value (and sometimes temperature or perhaps saturation) changes.

It may seem common sense to highlight by adding white and shade by adding black, but this usually is NOT a good answer. Adding white can make your color appear chalky, and black can muddy colors. Black and white can also desaturate your colors, making them tend toward grey. For example, highlighting red by adding white would make pink. Flesh would normally be a better color to use. Adding black to shade yellow would create a muddy olive color—you get better results by shading yellow with purple or perhaps brown.

The best way to learn color mixing is to practice and experiment. A color wheel can help you predict results. If you are serious about the hobby, learn more about color theory. Understanding color harmony can help you select attractive color schemes: —monochrome (using one color), complimentary (using colors opposite on the wheel), split complimentary (using one color and the color on each side of its compliment), diads (using colors two spaces apart on the wheel like red and orange), triads (using three colors evenly spaced around the wheel) and so on. It's not hard. This is especially true for history—in history we are somewhat constrained by accuracy. Selecting colors willy-nilly can lead to a discordant look. The best way to judge effectiveness of a particular color mix is simply your "Eyeball, Mark I". I recommend looking at your figure as you paint from all angles and even under different light sources. If it looks right, it is right.

PAINTS!



Here we see all the paints used to paint leather items on a winter Norse goddess. Note that least seven brands of acrylic paint along with two acrylics were used.

There are many types of paints, each with its own strengths and weaknesses. Painting techniques vary with each medium as do thinners. I paint primarily with acrylic paints. These are water soluble. I am of a paint geek and have north of 300 acrylic paints from many brands. Probably half my paints are craft acrylics. These are actually my favorite. They are quite inexpensive—about $1-2 for a 2-ounce bottle, come in hundreds of colors, thin easily, and dry dead flat (if you get the "Matte" variety). Because they are so inexpensive, it is easy to buy large amounts. The 2-ounce bottles also last years. They compare very favorably to much more expensive ($3-4 for a half-ounce bottle) hobby paints. They can often be found on sale for as little as 50 cents per bottle! I also like Vallejo Model Air colors—these airbrush like a dream and they also are good for brush painting. I have never had issues mixing colors from the different brands together. With thousands of acrylic colors available, I could (in theory) use straight from the bottle paints for all my base color, highlight, and shadow needs. But I also enjoy mixing. And mixing lights and shades from a common base ensures consistency.

Acrylic paints are likely the most commonly used paint in the figure hobby. They dry relatively quickly so you can build-up multiple layers quickly. Because of the rapid drying, they are more difficult to "wet-blend" (mixing the paint on the figure while applying it) than slower drying oils—but if you need a longer drying time, acrylic "Extenders" are available. They are also easy to thin. While many brands offer thinners, water generally works just fine. Because they are water-based, they are generally odorless and non-toxic. Their fast drying time and thinning versatility make them ideal for glazing and layering. Acrylics are not perfect—they can dry too quickly: when using small amounts of paint on a tiny brush, the paint can dry on the tip before you apply it to the model. When using very thin glazes or washes, you must take care to ensure "tide marks" (lines of color at the edges of the application) do not form. Metallic paints can also be problematic: the metallic particles suspended in the paint can look coarse, especially in larger scales. For metals, I actually prefer Model Air colors like those seen at right: their pigments are incredibly fine and the paint, designed for an airbrush, goes on very smooth and even—even if applied with a brush. Other metals, such as Andrea or Vallejo, are good for details.



While I primarily use acrylic paints, I use other mediums at times. I find acrylic inks useful for some applications. Whereas paint consists of pigment suspended in a carrier, the much thinner inks have pigment dissolved in the carrier. Inks are very thin (the consistency of water) and have very intense color that survives even extreme thinning. They can also dry with a slight eggshell sheen, making them ideal for things like leather. Note the photo at right includes an ink—they are great for mixing with or shading metallics.

The long working time of oil paints (thinned with Mineral Spirits) make them useful for filters and washes. I like oils for weathering filters and washes—especially on groundwork. Finally, commercial pigment powders or ground up pastel chalks are useful for many weathering and groundwork applications. I also have several enamels (also thinned with mineral sprites) for weathering and ground.

In addition to individual colors, sets of paints are available. Many are designed as "systems", and include all the colors needed to paint a specific item—be it flesh (like the Vallejo "Face Painting" set below), a particular nation's tanks, or the uniforms of a specific combatant—including the base color along with highlights and shadows. There are even some sets which contain a mix of paint, pigments, and/or inks designed to create specific effects. Many of these come with instructions, suggestions, or examples of their use. The other type of set is just a collection of paints. These type sets are available for individual colors—such as "red", "green", "black", "white", "blue" and so on. I have many paints sets—not because I need them, but because I thought they were cool or good value. I sometimes use them as intended, but often just use colors from them. So, paint sets are great, and can be used in just about any way you please. If you don't like mixing colors or are just learning to paint, they can be a big help, too. Just remember—they are not magic formulas… they still must be applied properly. They will not teach you to paint, but they can help you with color selection. They are simply another tool for your toolbox if you so desire. Use them—or not—as you wish. We will see several examples of paint sets in use in this work.



PALETTES: FLAT, WET, AND WELL!

Just like the type of paint you use (acrylic, enamel, oil, etc.) is a personal choice, so is the type palette you use. There are essentially three I use: flat, wet, and well.





A flat palette is nothing more than a flat surface like a piece of glass, square of ceramic tile, or the traditional artist's palette with the hole for your thumb. At right, we see two different mixes of oil paint mixed on a piece of glass to give use ranges from deep shadow to high highlight. While these palettes are great for slow-drying oil paints, they are almost useless for our thinner, rapidly drying water-based acrylic paint. And if we were try to use one to hold a wash or glaze, the paint would run all over the place! That said, I will sometimes use a flat palette—either an index card or a piece of cardboard—when using oils. The paper will soak up excess oil, reducing gloss and speeding drying time.





Another option, the favorite of many painters, is a wet palette. I have one, but I rarely use it. But it can be useful when going back and forth between multiple colors over a long working session (like when painting a large-scale face for example). It is essentially a tray with a damp sponge topped by a semi-permeable parchment paper. You use the paper surface as your palette and the sponge slowly feeds moisture to it from below, keeping your paint thinned and stopping it from drying out for hours or even days. Of course, it only works for water-based paints! I rarely utilize mine, and did not use it for any of the projects contained herein, so we will not cover its use here. You can find plenty of tutorials on the web.



I use the palette shown, with 10 small wells around a larger central well. I place a drop of paint, or mix colors, in a well and add water to create the consistency I want—whether a layer, a glaze, a wash, or a filter. In addition to paints, the wells can also hold ground pastel chalks, pigments, enamels, or even oils (something a wet palette cannot do). I can also use it with metallic paints. While I've never tried it, I've been told to avoid metallics on a wet palette as the tiny metal flakes can contaminate (ruin) the sponge rendering the palette useless. If the painting session will be long, I may have to occasionally add a bit of water to keep my paint at the same consistency, but that is easily done. If I need the paint to last overnight, I can just seal the well with a square of packing tape. Since I paint a single figure at a time, and even for a large bust the amount of paint needed for any given task is small, my well palette is a perfectly workable and inexpensive option.

At near right we see the base color for the our Chauchat Gunner's trousers mixed in one of the wells. If I need to take a break or save a color for later use, I can simply seal the well with clear tape as seen at far right. I have kept paint "alive" with this method for nearly two weeks—longer than I can with my wet palette!.





AIRBRUSHING!



My antiquated decades old airbrush rig is shown here. I use a basic Badger Model 200 Single Action Airbrush. For propellant, I use a very simple diaphragm compressor. With this set-up, I consider the pressure regulator and moisture trap to be essential. Without it, I would have no way of setting (or regulating) the air pressure coming out of the brush. It also prevents trapped moisture from causing paint splatters. Depending on need, I spray using either a medium or fine nozzle and needle combination. It is simple and basic, but it meets my limited airbrushing needs.

Most everything that can be done with an airbrush can also be done with a brush—the airbrush is just a time saver. A fancy expensive airbrush is not needed unless you plan to use it often for complex tasks. I use a simple single-action airbrush. The trigger controls air flow while paint flow is manually adjusted using the needle. The main factor in keeping it functioning well is keeping it clean. Consult the owner's manual for guidance and directions. Propellant is a matter of personal preference. You can use "canned air" designed for airbrushes or compressed air tanks. There are also many varieties of air compressor on the market. When painting, I use the following process:

- **Prepare Model Parts:** ***Clean and dry all items, use part holders to minimize handling, and arrange parts, in order, within reach.***
- **Prepare the Paint:** ***Thin the paint: start with the Manufacturer's recommendation and adjust from there. It should be about the consistency of milk. Arrange paints in order of need within easy reach, and have thinners/cleaners standing by. I keep a sponge, wet with cleaner, beside my painting station to occasionally clean the air brush needle and nozzle.***
- **Paint:** ***Dial in desired air pressure, test on a piece of card, adjust as necessary. Once all is good, paint the model. Between colors, run thinner/cleaner through the brush, clean the needle, and remove excess paint from the paint cup.***
- **Clean Up:** ***Place painted parts back on your workbench, and thoroughly clean the airbrush. Clean the work area and put everything back in its place.***

AIRBRUSHING TIPS: ***There are several factors that will affect the quality of your finish.***

- ***Your paint job will only be as good as the surface it is painted on. Blemishes WILL be visible under a coat of paint. Ensure the surface is smooth and blemish free. For paint to properly adhere, the surface MUST be clean of dust, oil, and contaminants. Wash the model with a mild detergent and warm water prior to priming. Allow it to COMPLETELY dry before applying paint.***
- ***Prime the surface. Primer serves two functions—it gives the color coat a good surface to adhere to, and it highlights any defects in the surface.***
- ***Adjust the air pressure for the painting task. A lot depends on the airbrush, type paint, and your preference. Since I use acrylics, I prefer a higher pressure to prevent paint drying on the nozzle. I usually use 20-30 pounds of pressure for general spraying and about 10-15 pounds of pressure for detail work. Adjust the needle to widen or narrow the spray pattern.***
- ***Do not rush. Multiple thin coats are better than a single, heavy coat. Allow the paint to dry between coats. Do not expect to get complete coverage on the first coat. Any defects you notice should be repaired between coats. The best way to do this is careful wet-sanding—but make sure the paint is COMPLETELY dry. If you can smell it, it's not dry.***
- ***Begin and end each spraying pass off the model (start spraying in front of the model and keep spraying until the airbrush is past the model). Spray over the model without stopping. This helps prevent the build-up of too much paint leading to drips and runs.***
- ***An "orange peel" texture means the paint is drying before it has a chance to level out. Repair the surface and thin the paint or move closer to the model.***
- ***Drips and runs means the paint is too thin or applied too thickly. Again, repair the surface. Move away from the model or move across the model faster.***
- ***Splatters can mean the paint is too thin. Add more paint to the mixture or start over.***
- ***Blobs of paint can be caused by old lumpy paint or by a dirty airbrush. Repair the surface, clean the airbrush, and thin or replace the paint. If the paint is old, throw it out and get new.***
- ***Dimples or other imperfections are normally caused by surface contamination. Repair and clean the surface. Repaint. Cleaning the surface prior to painting and painting in a clean environment can help prevent this problem.***
- ***If gloss paint appears flat or dull, it is drying too much before it hits the surface. Fix this the same as "orange peel".***
- ***I use acrylics and they can dry on the needle during painting causing stoppages. I keep a piece of Windex-soaked sponge nearby and press the tip of the brush into it from time to time to keep the nozzle clear. It also helps to clean the airbrush often.***

PAINTING LARGE SCALE VS. SMALL SCALE FIGURES!

The difference between painting large scale and small scale figures basically boils down to "amount". Obviously, as our scale gets larger, the amount of detail likewise increases. In really large scales, this can even include such things as heavy stitching on leather gear items. On a really small figure—1/48th scale for example—an eye may consist of a white of the highest flesh highlight color, a black line for the upper lid, and a black dot for the iris. At a large scale, 1/9th for example, we may also need detail in the iris, a round pupil, a tear duct, lights and shades on the white of the ball, and so on. Intermediate scales will have various amounts of detail in between these two extremes.

Also as our figures get larger and larger, textures must be more realistically rendered, too. Consider a woolen garment, for example. Up to about 75mm (1/24th scale), this is done through normal shading and highlighting. But in larger scales, applying highlights and some shadows using small dots of various, similar colors, may better represent the texture. Differences between materials, such as smooth cloth, rougher cloth, metal, flesh, leather, wood, and so on must be more clearly painted. In our first build of a French Chauchat gunner, we will see examples of most of these textures. We will address them again using a large MG 08/15 Gunner.

Consider the "Concept of Scale Light" mentioned earlier. As we get larger, and therefore nearer to life-sized, our transitions between the highest highlights and deepest shades must be more subtle and gradual. This generally calls for more intermediate layers or highlight and shadow than we would use on a smaller scale figure. Likewise, as we get smaller, and therefore have to "scale down" our light even more, we need more contrast which means more contrast and more abrupt transitions.

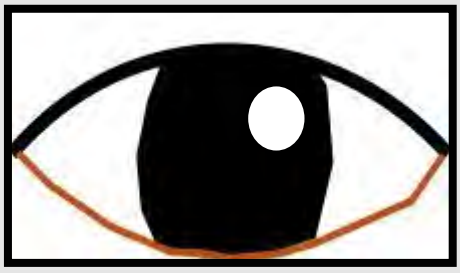
Perhaps paradoxically, this "more" for larger figures means that while the big fellas may be easier to see, they are harder to paint!







Here are some practical examples. Compare the 1/35th scale figure above left with the 200mm bust at right. The small figure is basically a value study from high to dark with strong outlining and edge highlighting. The large figure uses infinitely more color variation, smoother and more gradual transitions, and includes much more detail and texture. Also check the texture on the equipment of the 120mm figure above center. Looking at them in person, they all look just as good. But as they get larger, there is more of everything. Below we see sample eyes: 1/35th at left, 75-120mm in the center, and large scale at right. While most of our basic techniques remain similar as scale changes, we cannot just apply "cookie-cutter" solutions to problems of different size.







CHECKING YOUR WORK!

Have you ever thought that something looked "off" on your work, but you were unable to pinpoint the issue? Or, when displaying your work in public—at a show for example—do people point out flaws or question choices you had not noticed or given thought to? Just as we should proofread what we write, we should proof our figure work, too. We won't catch everything, probably, (as the spelling/grammar errors in this work attest), but each thing we identify and fix results in a better final figure.

Some of the things we can do to check our work are obvious. Simply looking at it closely and critically is the best thing. Magnification can help, too. You can look at the figure under different lighting, shine a flashlight on various areas, or even simply take the piece into a different room or outside. The change of lighting and/or background—i.e. looking at the figure in different conditions than you are accustomed to—will help errors stand out. Another thing we can do is let the figure sit for a few days without working on it or looking at it. When you come back to your desk, you are then gazing upon it with new eyes. Photography helps, too. You can zoom in and enlarge—looking at the figure on your computer monitor at many times life-size. That way you will clearly see mistakes not otherwise apparent.

But there are other tricks we can do that may not be so obvious. After you paint the eyes, for example, and you want to make sure they are correct and symmetrical, do the things we said above. And then look at the figure in a mirror! Or take a photo and reverse it. It may seem odd, but irregularities you didn't notice before will become apparent. Want to check your levels of contrast, and ensure the figure is "readable"? View it in greyscale! This will clearly show where contrasts between adjacent bits are too low. It will also show if we've pushed contrasts too far—for example if your face looks like a black and white skull. It will also help you gauge textures and reflections.



Left: Eye alignment was checked by looking at a mirror image. He is good to go! This large view also allows us to check details (the five o'clock shadow looks good for example) and our blending.

Below: Viewing our work in grey scale helps us judge contrast and readability. Without color to give us clues, errors will become readily apparent. Are items still distinct? Do different textures still look proper? Again, he's good to go!

Another thing we can do is ask trusted friends (who will give honest feedback) for their thoughts. For example, I share my progress with my wife, and she is very honest (nay, brutal) with her observations. It helps a lot. You can also share in-progress photos online. But beware—a friend or a site/forum that only gives you compliments is worse than useless: not only will your errors go unidentified and likely uncorrected, but you will get comfortable and believe you are better than you actually are. Feedback from those you look up to (and awards earned) at shows can also really help you improve!





WORKING WITH EPOXY PUTTY!





When filling gaps or doing any type of conversion or sculpting work, we will need some sort of modeling clay or putty. I prefer epoxy putty. Epoxy putties consist of two parts—resin and hardener—mixed together to create a self-hardening clay. Different putties have different characteristics, working times, and hardness once cured. Putties can be used as gap fillers, for sculpting, or for groundwork. For most applications, I prefer Magic Sculpt. It can be worked while soft and, after curing, can be carved, sanded, cut, etc. For small, fragile, or fine details I like Kneadatite. This putty has more the consistency of chewing gum and is best worked soft. After curing it remains somewhat flexible. For things such as flags that may be too brittle if made of Magic Sculpt alone, I mix the putties in a ratio of one third Kneadatite and two thirds Magic Sculpt. Let's look at some methods or working with putties.

1. Putty can be worked with a variety of tools. I usually apply it with my fingers and/or various putty spoons. Once in place, its shape can be further refined with suitable tools such as a hobby knife, putty spoons, dental tools, rubber cone brushes, or regular paint brushes. My favorite sculpting tool (at bottom) is a toothpick! I sharpen it to a fine point on one end and round it on the other. Its then coated with superglue and, once dry, sanded smooth. It costs next to nothing and takes less than five minutes to make. I mark mine with red bands so as not to confuse it with an ordinary toothpick! The putties are water soluble so can be shaped or smoothed with a damp brush while still soft (water is fine, but some modelers prefer hand lotion, acetone, or rubbing alcohol).

2. When sculpting or converting figures, I will make armatures of the needed areas from the figure itself or from resin chunks. Heavy wire is used to fashion limbs.

3. Once happy with the pose, I use an application of putty to make a rough nude form (here, you can see the arm under the sleeve I am adding). I then cloth the figure by applying a layer of putty and shaping it . 4. Needed folds, wrinkles, and creases are added with appropriate tools before I smooth the putty with a damp brush. If needed, it can be further carved or sanded once cured.

5. For things such as flags, tarps or flowing skirts, I roll the putty thin using a dowel rod on a piece of glass (with lots of talcum powder to avoid sticking). This can then be applied and shaped as needed. After curing, additional folds, wrinkles, or details can be added with additional applications of putty as desired.

There are generally numerous ways to approach any task. A rolled tarp, for example, can be made of rolled-out putty. It could also be sculpted from a sausage of putty. Or, you could make the main portion from a sausage and the ends from rolled putty.

I generally work in small areas at a time, letting each cure before moving to the next. For example, when making trousers, I work each leg separately and only add details (pockets, fly, belt loops) after all basic forms are in place and cured.

Putties are adhesive and will stick when freshly mixed. Putty that has set for a while, putty coated with talcum powder, or cured putty will not stick, but can be superglued.

Putties can also be used for gap filing or for creating groundwork.











#"



WORKING WITH STYRENE SHAPES AND FORMS!

Styrene is a very common and easy to use material for detailing and scratch-building. In this work, we see several examples of its use for making various items. Companies like Plastruct and Evergreen make sheet plastic in all colors, textures, and thicknesses and sell a variety of forms such as strip, bar, rod, tube, "U", "L", "I", tread plate, siding, clapboard and on and on. These are very useful when detailing or scratch-building. When someone laments the lack of a particular item in the modeling world, I joke that these companies manufacture replicas of everything ever made. The only tools you really need are a good hobby knife, a metal straightedge, some sanding sticks, and perhaps a scriber (I use dental or gun-cleaning tools).

Thin plastic can be cut with scissors, but this can cause the sheet to curl. Plastic can also be cut with a saw, but it can result in ragged or chipped edges and burrs. I use a hobby knife and a straightedge to score the plastic along the line I wish to cut. Then simply bend the plastic away from the score and it will snap cleanly and exactly. Usually, scoring about a quarter of the way through is enough. If a burr does form, simply scrape it away with your hobby knife.

You can also scribe the plastic using a similar method as cutting it—when making panel lines or boards for example. I hold the straightedge tightly against the sheet and draw the scriber towards me. You can achieve a uniform depth by using a uniform pressure. The thickness and shape of the scriber determines the thickness and shape of the line. If a burr or raised edge forms, you can simply scrape it away.

You can heat pieces of the plastic sprue trees and stretch them to make antennas and wires. Styrene plastic forms—rod, hex, strip, etc., can also be stretched like sprue. Gently and evenly heat the part over a candle and draw it out to the desired length and thickness. It will retain its shape - for example, a hex rod will still be hex rod, just a longer and thinner one.

Thin plastic rod or stretched sprue can also be used to fashion missing weld seams. Simply use a piece of appropriate size, glue it in place, and soak it with liquid cement. Once softened by the glue, it can be easily textured with the tip of a hobby knife to create the weld texture.

These are just a few samples of what can be done Styrene is easily glued with liquid plastic model cement. Superglue can also be used.



To stretch sprue or styrene (or bits of sprue tree from plastic models), carefully heat it over a candle flame until soft enough to pull to the length/thickness you need. With practice, you can get good, consistent results.



An example of using thin styrene rod or stretched sprue to create weld beads (in this case on a 1/48th Sherman tank). Soak the styrene with liquid glue and, once softened, texture with a hobby knife. !

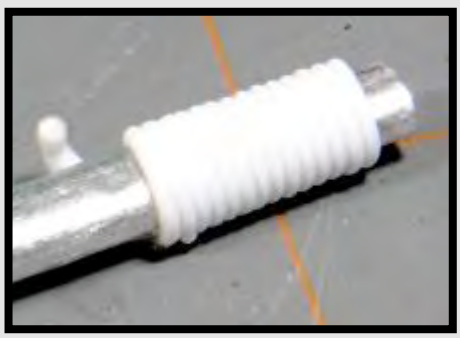
The easiest was to cut sheet plastic is to first score it deeply (at least one quarter of the way through). I use a straightedge (often the metal billet seen) and a SHARP hobby knife blade. If the sheet is thick, I make several thin cuts rather than try to force a single deep one. Once scored, the sheet is easily and cleaning snapped at the line by bending away from the score.





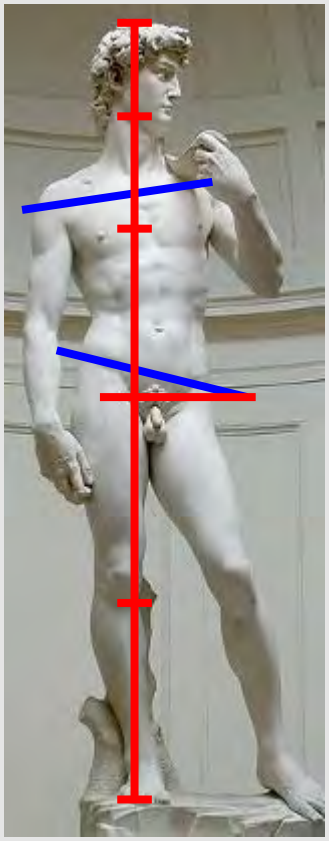






Other Examples: Scribe woodgrain into the plastic by repeatedly dragging (not rolling) a Dremel coarse sanding disk over it (left). To glue pieces together at an angle, a trick to making them line up perfectly is to cut them long. Glue them flush on one side so that they overhang on the over side. Once the glue is dry, the overhang can be cut flush and you have perfectly-fitting styrene strips such as on this chest lid (center). To make loops or springs, wrap styrene rod around a piece of brass tubing. Heating it to almost melting-point with a hot air gun locked the shape in place. Using similar methods, you can create almost anything imaginable.

THE BASICS OF FIGURE CONVERSION/CREATION!



Michelangelo's "David". The figure stands 8 heads high. The bend-point at the waist is at the 4 head height point. Note the counter rotation of the hips and shoulders. The foot supporting the figure's weight is directly under the head, and the hip on that side is higher while the shoulder is lower.

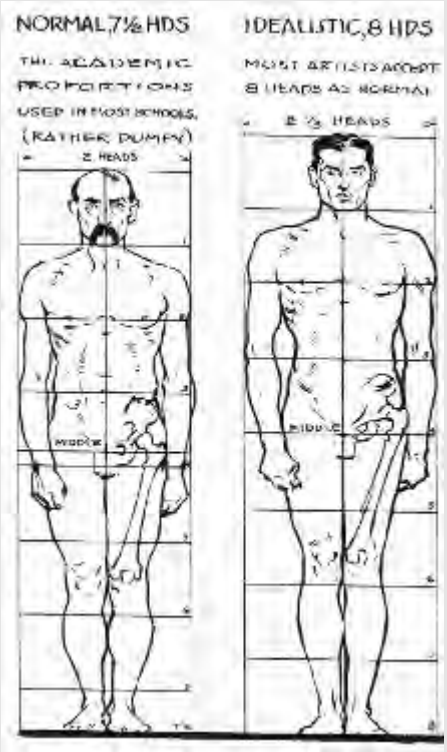
While we will not go into any depth on figure conversion or creation in this work, it is not hard to do. This small introduction is offered for those who wish to give it a try.

The first and most vital step in a conversion or sculpt is to get the anatomy, proportions, and pose correct. If these are off the figure will look wrong—no matter how well you do everything else. Accurate measurements are important, but the best judge is your "Eyeball, Mark I". If it looks right, it is right. I find Andrew Loomis's proportion diagrams useful (below). Drawn in the 1950s these can be found online (along with drawings showing female and child proportions). Proportions can vary, but we shouldn't stray too far. The body is a complex form and recreating it is more art than science.

People come in different sizes and shapes, but the size of the head is fairly consistent, making it an ideal unit of measurement. For an adult male, the head should be 9 inches from chin to crown. An idealistic proportion where a man stands 8 heads high gives us a figure that stands 6 feet tall. The bottom of the knee is at 2 heads, the crotch is 4 heads, the navel is 5 heads, and the nipples at 6 heads. Shoulders should be 2 heads (18 inches) wide. When the arms hang straight, finger tips should reach mid-thigh. The "bend point" is at the center of the body (4 heads). Model a shorter or taller person by keeping the head the same size and making the body and/or legs (mostly legs) shorter or longer. The size of the hand is approximately the distance from the hairline to the chin and covers the face. Arms are about 3.5 heads long, with the forearm being about 1.7 heads long.

As you work, keep arms and legs the same correct length, and knees/elbows in correct places. As we cut and reposition our figures, joints can "migrate" so we must remain mindful. Make sure figures only bend in proper places—we do not want "spaghetti" arms or legs; limbs (and fingers) should be straight between joints.

The pose must be believable. Movement of one body part affects others. As we move, we shift our limbs, shoulders, and hips in opposition to each other to maintain balance. If an arm is held forward and up, the other arm might be held low and to the rear. Hips tilt in various poses. If one hip is raised, the shoulder on the same side will be lowered. If a hip is moved up and forward, consider moving the shoulder down and back. Note that the spine is S-shaped, and note how it bends. The neck does not project straight up from the shoulders, but rather is angled slightly forward. If standing in a balanced position, the head is positioned over the foot set to take the majority of the body's weight (the supporting foot). The hip on the supporting side will be higher than the other side. As we walk, we constantly move our body to maintain this relationship. We should only violate this rule for a good reason – for example, a figure in mid stride or one that is jumping.



A typical man with "idealistic" proportions will have a head that is 9 inches high from the chin to the crown. Standing 8 heads tall gives him a height of 6 feet. Also shown is a slightly shorter man. The head is still 9 inches, but the man only stands 7 1/2 heads high. People come in different sizes, but head size should remain relatively consistent. Gear and equipment sizes should be absolutely identical.

Use this to create motion in a figure. An off balance figure that couldn't hold its pose for more than a split second is obviously in motion. Emphasize motion and action by exaggerating the pose. An exaggerated pose, with the limbs hyper extended, leaves no doubt about what the figure is doing. Exaggeration is often necessary when working in miniature to convey the intent of the gesture in the small size and through layers of clothing and equipment.

It can help to have a model (preferable the same sex, age, and build of the figure) assume the pose and copy from life. Photos are another possible source of information. You can also look in a mirror and assume the position yourself. An advantage of using yourself is that you not only see, but also feel, how a pose works and how your joints and muscles move. Ignore the laughter of your spouse.

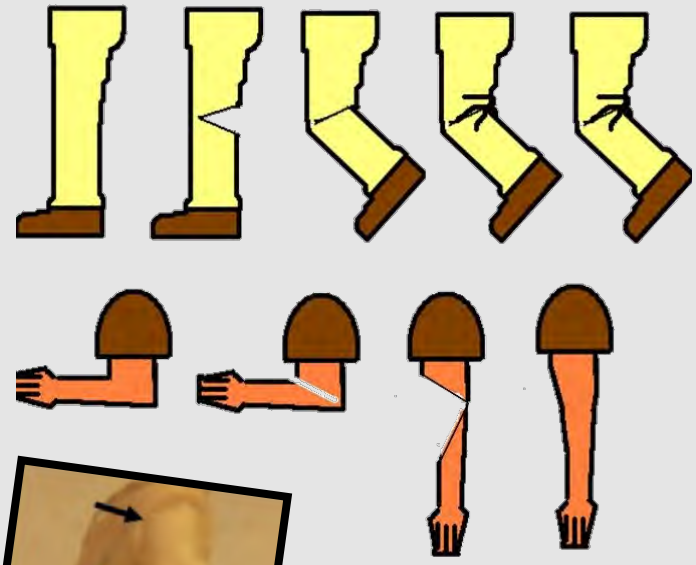
The more time you spend getting these factors right, the better your finished figures will look. Anatomy or art books can be helpful but are not required. Your BEST reference is people. Be aware of body language and expression! Remember the story you are trying to tell and take account of the action being performed. Make sure everything matches and works together. Repositioning figures is easy—repositioning them so they look natural and correct is much more challenging. Take your time. Get it right.

SIMPLE POSE CHANGES!

As already mentioned, we can created figures from scratch over an armature. We can also convert existing figures. Detail changes consist simply of cutting off the old and sculpting on the new. On this page we will look at simple pose changes.

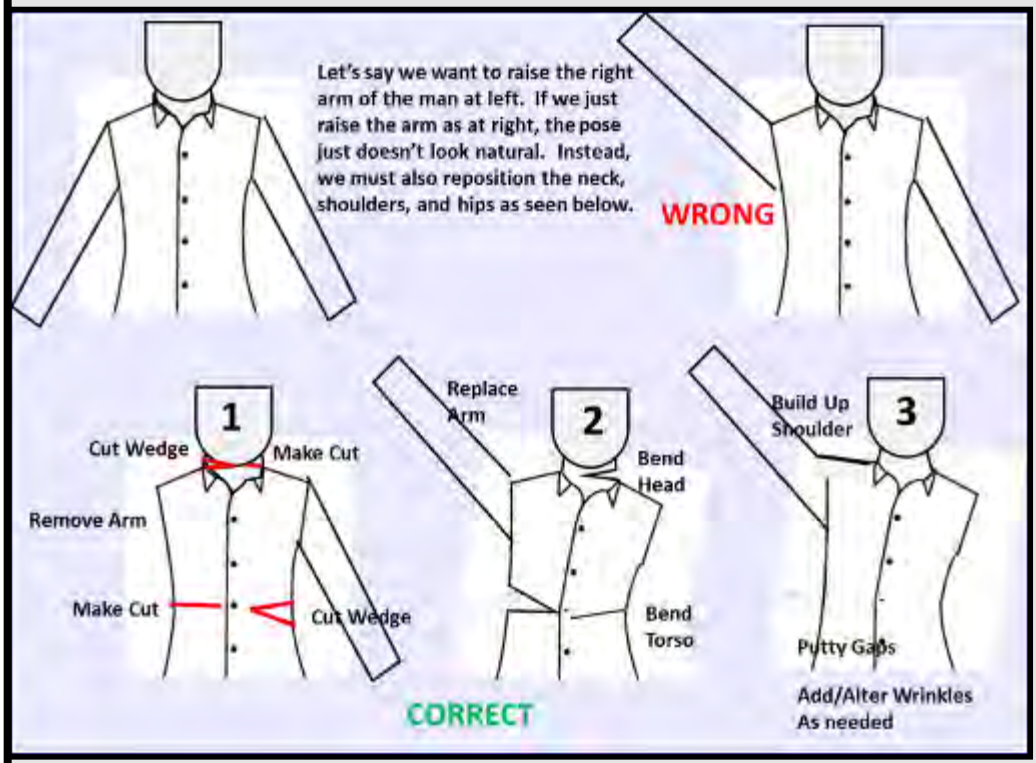
This intermediate stage between using a stock figure and sculpting your own allows you to convert or modify a figure to fit your exact needs. This is a viable option if something fairly close to what you want is available commercially, perhaps needing only some minor pose changes or alterations of uniform details. In some cases, conversion can be as simple as parts swaps, for instance replacing a head with an aftermarket item or one from another kit. In some cases, details may not exactly match or gaps, imperfections, or damage may need to be repaired. To do this, we would use the same methods reviewed briefly an page 17.

When we want to repose or reposition a part, it can be done by simply cutting it and putting it back together in the desired position. Refer to the diagram above right. For instance, to bend a straight arm or leg, cut out a "V" behind the knee or in front of the elbow and close the joint. To open a bent knee or elbow, cut almost through the part from in front of the elbow or behind the knee and straighten it. An option to bending the parts is to cut them apart and place a length of wire between the pieces and pose it like an action figure. Ensure the limb stays the correct length. Always make sure anatomy remains correct—reposing one part may affect others. Once the figure is reposed, simply repair the joint and any lost detail using epoxy putty or other preferred means.





On the Time Machine figure at left, we see just how much we can do with minor limb repositioning. This figure has been cut apart at all the marked joints. He has been joined back together using flexible wire. Once posed properly, all the various damage will be repaired with epoxy putty and he will be good as new… only in a somewhat different stance. For a conversion much more in-depth than this, it would be as easy to start from scratch and sculpt the figure!



There is a practical limit to how far changes can be pushed before major changes or even resculpting must be done. See the example at left. While it may seen easy to raise a lowered arm by simply cutting it off and repositioning it, raising it very far results in major problems. In this example, raising the arm over the shoulder also requires changes to the hips/waist, neck, and right shoulder (the left arm may need altered as well). If the figure is wearing belts, straps, and equipment, this will alter the way they sit. It will also change the wrinkle pattern on the arm, waist, and right shoulder. The lower jacket skirts may also require alteration as may the legs. This quickly becomes a major conversion where it is probably easier to sculpt the needed parts—or even the entire figure— from scratch!. !

THE TEN COMMANDMENTS OF EFFECTIVE COMPOSITION!

For a single figure and often for a small vignette, we have no need for any particular story. Still, we want to identify the who, where, and when of our creation, and we want to display our figure(s) to best effect. But often we do want to tell a story or we have a somewhat more complex display in other regards. For a diorama, a story is central. A diorama is a three dimensional scene where each element works with, compliments, and interacts with the other elements to tell a story. You can create perfectly acceptable dioramas by using stock commercial figures, or you can convert or create your own. Of course vignettes and single figures can also tell stories. Regardless of whether you have a story tell or not, we want to present our pieces to the best possible effect. The process I use to accomplish all these goals are my "Ten Commandments of Effective Composition".

You begin composing your story before you even acquire the kits. You can get your idea and your inspiration from a variety of sources. You then conduct research to help refine your idea and formulate what you will need. But the composition process cannot begin in earnest until you have the majority of your elements on hand and at least partially assembled. Only then can you work out exact relationships. Composition is the key to telling a story, but effective composition is more than placing a few figures and other elements on a base. It requires careful planning. It is important that the viewer quickly grasp what is going on. If not, the work has failed at some level.

My formula, my commandments, are listed below. They are not carved in stone nor do they apply in every situation: they are merely guides to help me create attractive pieces and tell stories—tools to help me transfer what I see in my mind's eye into a three-dimension finished piece. I don't consider them individually, but use them all in conjunction with one another. They are not restrictive and do not take the place of imagination. Out of space considerations, this look will be very brief. We will look at a couple examples later in this work. For readers wanting more, an 84-page study of all my methods, with dozens of examples, can be found on my Google Docs page. !

!

1) <u>HAVE A SINGLE MAIN POINT.</u> There can be several things going on at once, but like scenes in a movie, they should all work toward the main point. The main point is what we are trying to accomplish—our goal. Always keep it in mind. Side bar plots and stories are ok IF they support, and not distract from, the main point.

2) <u>DIRECT THE VIEWER'S EYE</u>. Be cognizant of how people look at things. Large or prominent items are noticed first. Other things are generally viewed just as we read—from left to right. All things being equal, the front right is the strongest portion of our stage because that is where the eye stops. But not all things are equal—height, size, color, facing, etc. can all alter the relative visual strength of items. Viewers will naturally follow the glances and gestures of the figures or lines (actual or implied) that are present in the scene. Arrange elements so viewers read the story in the proper order.

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3) <u>SHOW ACTION AND INTERACTION</u>. Action is more appealing than static, but action must be purposeful. Multiple elements should interact in a meaningful way.

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4) <u>USE A TIGHT COMPOSITION</u>. Tight compositions are visually more appealing than loose, open ones. They are better at conveying drama and stress.

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5) <u>BALANCE</u>. Balanced compositions look better. Elements or action on one side of the composition should be offset – or balanced – by elements or action on the other side. A large item on one side could be balanced by several smaller ones on the other side for example. Note that balance and symmetry are NOT the same thing! Symmetrical work can look contrived. There is also a balance (or imbalance) between positive space (where things are) and negative space (background, unused areas, etc.). A balance here helps creates a calm, peaceful atmosphere. An imbalance with more negative space creates dead space. This is bad. An imbalance toward positive space creates crowding and stress—something I often use to heighten tension.

!

6) <u>USE ALL THE ELEMENTS</u>. The composition and overall effect is influenced by more than just figures. Other elements such as the base, nameplates, groundwork, and method of dis-play are important, too. These things should compliment, and not contradict, the main story.

!

7) <u>MINIMIZE DEAD SPACE</u>. Empty unoccupied space is boring and detracts from – or deadens – the final result. Use a smaller base or put something relevant in the space. Dead space should only be used if it helps tell the story.

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8) <u>USE SHAPES AND ELEVATIONS</u>. The size and shape of the base, groundwork, and composition can compliment and enhance the composition, help direct the viewers' eye, and provide balance. Also be aware of shapes within your composition—both actual and implied. I like triangular shapes in my scenes. From the art world, I often use compositional tools such as the "Rule of Thirds", "Rule of the Golden Triangle" or "Rule of the Magic Circle". Also, unless I want to create symmetry or order, I never place items parallel to each other or the edges of the base. A few degrees is all that is needed to help give an impression of spontaneity… to create a "snapshot" effect.

!

9) <u>ARTISTIC LICENSE IS OK</u>. Use artistic license to fill gaps in knowledge, create a more visually appealing piece, or simply due to style. Use it to assist in recreating the feel, emotion, and drama of an event – to capture the impression and feel rather than just the look.

10) <u>PLAY WITH IT</u>. Try different arrangements and various bases before settling on a final composition. Don't be afraid to add, delete, or move elements to help enhance your story or create a more attractive piece.

BASE BASICS!



This rustic, but nicely finished base (by John Jeffries of Birchtree Enterprises) really compliments the destroyed trench setting for this 1200 Model Cellar German Stormtrooper. As I often do, the nameplate is printed on high-quality paper, clear coated, and attached with double-backed tape.

I prefer professionally-made bases by individuals like John Jeffries (Birchtree Enterprises), Christopher Essock (Orange Lion DIY) or others. These are generally pricey, but they are the best-looking bases you can get. Most figure shows usually have at least one maker present. An online search can reveal more. Still, a base doesn't have to be professionally made or expensive. If you have the inclination, tools, and talents, you can fashion your own. Your local trophy shop is a source—trophy bases that look presentable are generally not too expensive.

Consider a nameplate. You may choose not to use one. Or you may decide to simply identify the vehicle or figure. You can even come up with a descriptive name for the piece. This can actually be a clue to the viewer in comprehending your story in a diorama or vignette. Your local trophy shop can make plates of various designs, or can make your own. I create mine in PowerPoint, print them on quality cardstock or fancy paper, seal them with a clear flat, satin, or gloss finish (whatever best compliments the model or scene), and attach them to the base with double-backed tape.

Please do not look at the base "rules" presented here as restrictive in any way. They are simply common-sense (to me) guidelines. Like other aspects of modeling, there are no limits to your imagination or creativity.

The base is an important aspect of our piece that performs several functions for us.

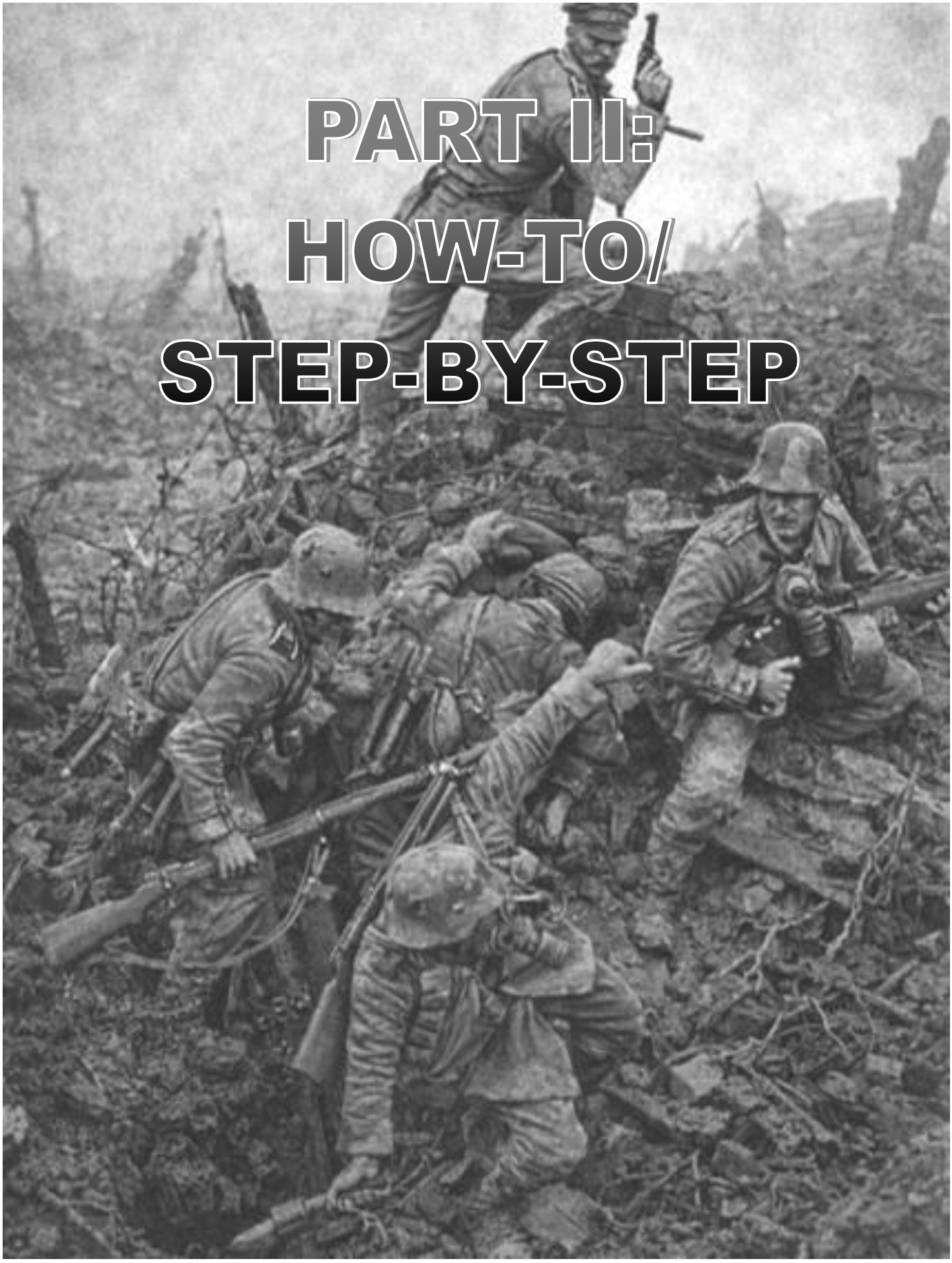
- ***It minimizes handling—people touch the base rather than the model.***
- ***It serves as a base, literally, for our groundwork which provides setting and context.***
- ***The base can actually be part of your composition, help tell your story, or simply provide a place on which to attach a descriptive nameplate.***

Many modelers put little effort into their base, but it is a big part of the overall impression the figure makes. You spend valuable time and money to make the best figure you can, why stick it on a shoddy base? As Shep Paine said, the base is the "frame" for your model "picture". It can improve the overall look of a mediocre model or ruin an otherwise outstanding piece. When selecting a base consider the following.

- ***Our base should be at least the same quality as the model.***
- ***It should be appropriately sized. A common mistake is using too-large a base, creating dead space or swallowing the figure. But be careful it isn't too small—if too many parts overhang, it increases their susceptibility to damage. It can also be prone to falling over. Allow the composition to control the size of the base—not vice versa.***
- ***Consider shape and design. A piece meant to be viewed primarily from one angle may look best on a square or rectangular base while one meant to be viewed from any angle may fit best on a round or oval. A vertically-oriented piece—such as a standard bearer on a rearing horse—may be best on a taller pedestal base, but beware—make sure it's stable and not prone to falling over. Odd-sized bases (anything that isn't round, oval, square, rectangle, etc.) can also be used effectively in many situations.***
- ***Ensure the base compliments the figure in design, color, and finish.***



This Model Cellar Trench Raider sits on an attractive plinth. There are no rules as to size, but generally for single figure displays, I like a base about half the height of the figure give or take. If the base is too large, it may swallow the figure. Too small, and the figure may be prone to falling over (which—spoiler alert—is never a good thing).



PART II:
HOW-TO/
STEP-BY-STEP

FRENCH CHAUCHAT GUNNER!



This Model Cellar figure was originally 3D printed before being cleaned up and cast in resin. As Model Cellar often does when using this method, the figure is available in more than one scale. This particular piece can be purchased in both 75mm and 90mm. I acquired the 75mm version.

It is an attractive depiction of a French infantryman carrying his Chauchat light machine gun in an assault pose. The figure includes 14 pieces cast in resin and 2 3D printed parts. Resin parts include the torse, legs, 2 feet with puttees, 2 arms, head, helmet, 2 Chauchat magazine pouches, ammo pouch, water bottle, haversack, and the Chauchat. 3D printed parts include the Chauchat barrel and bipod. My main niggle is that there is no included gas mask—however, this would not be hard to scratch-build if its absence really bothered you. My other—admittedly very minor issue—is that I wish the face had a more battle-appropriate expression. The face is fine, quite good in fact, I just wish it looked a bit more scared, angry, or aggressive.

In this first segment, we will look in detail at building and painting the figure—putting into practice the various concepts we looked at in Part I. We will also look briefly at building and painting the groundwork—however, we will not go into great detail as the methods used are nearly identical to what we will cover in-depth in the later “Storm of Steel” segment.

This figure is typical of Model Cellar offerings. They are a company whose product I will generally trust sight unseen. Many of their earlier pieces—from the 90s—can be a bit crude, but they are typical of figures from that era. As with all makers, some of their offerings are better than others, but overall their quality is quite high (and their prices quite reasonable), and just as we will showcase their many assets in this work, we will also identify their few shortcomings. While there are occasionally minor flaws the casting is to a universally high standard, they are well-packaged in bubble-wrapped bags surrounded by packing peanuts—I have never experienced broken or missing pieces. Their pieces also generally have a high degree of historical accuracy, although I have found a couple (very) minor issues. They are a company whose product I can, without reservation, recommend.

WWI FRENCH INFANTRY!



My 1/35th scale vignette "The Price of Elan" depicts the soul-searing levels of casualties the French suffered in the first months of the war. The two main figures were given to me by a friend—they are figures from a company that never got off the ground and remain unreleased… The downed horse is a modified Historex part and the other figures are modified ICM pieces. ICM makes several sets of WW1 soldiers from many nationalities in 1/35th. For plastic figures, they are of a uniformly high quality. Each set also contains a very useful sprue of weapons and equipment.

The French went to war in 1914 with arguably the least practical uniform of all the major combatants—conspicuous dark blue greatcoats and bright red trousers. While other nations had transitioned to drab, earthy tones for concealment, the French clung to their obsolete 19th century aesthetic. Attempts to adopt a more practical uniform had met with conservative political opposition: "Red Trousers are France!" .

Casualties during the open phases of the war were horrendous. Between August 20th and 27th, the French suffered 40,000 dead—27,000 on August 22nd alone. While the bright uniforms were made one of the scapegoats, the real culprit was massed close-order charges into machineguns and artillery.

As a result, the War Ministry rushed the "blue horizon" (horizon blue) uniform into production in early 1915 to provide better practical camouflage and concealment. The redesigned gear included the steel "Adrian" helmet and remained the standard for French soldiers throughout the remainder of the conflict. For load-bearing gear, the French relied on traditional leather suspenders and belts, which grew stiff and heavy when waterlogged in muddy trenches.

In 1917, the French army nearly broke. Following the bloody failure of the Niovelle Offensive, "Collective Indiscipline" (mutiny) broke out in nearly half of the army. The soldiers stayed in their trenches to defend France, but they refused suicidal orders to attack. After the mutinies. General Petain restored morale by halting costly offensives, improving living conditions, and increasing the amount of leave given. The posture remained defensive until the intervention of fresh American forces helped turn the tide, resulting in an Allied victory in 1918.

The French soldier soon acquired the nickname "Poilu" in the press and popular imagination. "Poilu" means "Hairy One". Water was scarce in the front lines, and water for shaving was scarcer. The dirtiness and alleged hairiness of the soldiers at the front gave rise to the name. However, amongst themselves, they were simply "the lads" or—as war weariness set in—"the poor bastards at the front."



French soldiers photographed in 1918. Model Cellar figures capture this look well. Although black and white, note the "colors" in the photo. The puttees are in as many as four different shades, and the horizon blue uniforms show a similar variation. There even appears to be some slight variation in the color of a couple of the helmets, though this could be the light and reflections. The man on the left carries the Chauchat.

CHAUCHAT: The worst machine gun of WWI?!



French solider with Chauchat

While Germany developed the MG 08/15 and the British created the excellent Lewis Gun, the French solider was cursed with the Chauchat: the Fusil Mitrailleur Modele 1915. Many consider this the worst machine gun of the war. Designed by Colonel Chauchat, the weapon was constructed primarily from sheet metal stampings. While it could be produced quickly, it had less than optimal reliability. It was fed from a 20 round curved magazine with open sides to show how many rounds were remaining, but this also allowed dirt and debris to enter the action. It had a permanently mounted bipod, and could be fired by one man while walking or from the hip. It generally had a three man crew: gunner, loader, and ammo carrier. The long recoil operating system was violent, which resulted in poor accuracy. A special cartridge also had to be developed to counter feed and extraction problems.

The gun was first used in 1916. Tactics called for gunners to suppress targets that would be approached on the move and then destroyed by fire and grenades from close range.

Lacking their own machine guns, the U.S. also used the Chauchat. The Americans were not issued cleaning kits and few were given training in the weapon's maintenance. As a result, the gun had a raft of issues and acquired a very poor reputation among doughboys.





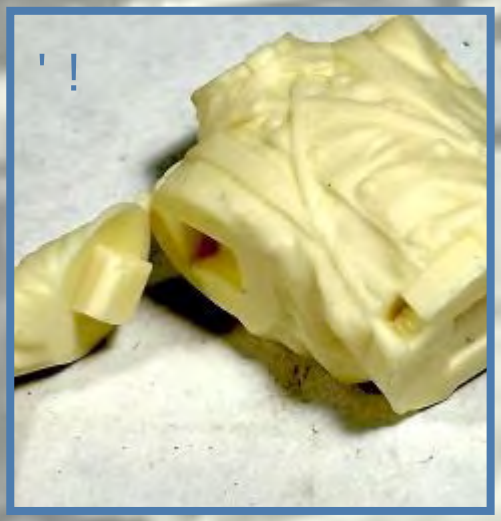


1. Here are the parts and pieces of the kit. They are quite representative of Model Cellar offerings. Most are cleanly cast in cream-colored resin. The Chauchat barrel and bipod are 3D printed. **2.** This close-up of the gun barrel shows the fine detail that 3D printing can provide. In fact, the bipod is so fine (read fragile), that I only removed it from its packing, painted it, and attached it as the very final step of the build after the figure was painted and attached to the base. **3.** Although most parts are cast in resin, the detail provided by digital sculpting and initial 3D printing is impressive: note the tiny regimental number (122) on both lapels of the coat.



4. As another example of the detail present, here we see a sleeve qualification badge and service chevrons on the upper left sleeve. 5. The trigger guard and the forward hand grip of the Chauchat are cast as part of the hands. Thankfully, fit of the arms to the body and the gun to the arms are perfect so there are no alignment issues. 6. Fit is so good because the parts are positively and precisely keyed to ensure exact fit with no gaps and perfect alignment. Still, you must take care—no process is so foolproof that a fool can't mess it up. Sloppiness in clean-up or assembly can result in fit problems—not the fault of the model, but rather the fault of the modeler. Any piece that is misaligned will likely result in other pieces not fitting properly. 7. No matter the kit, it is important to test fit parts every step of the way to make sure they fit as well as possible. Here, fit is perfect. In fact, in this photo, these parts are simply clicked together without glue—they will only be glued (and pinned) during the assembly process. 8. Few castings, however, are absolutely perfect. As mentioned in Part I, we need to prepare the parts of assembly by cleaning-up any issues. These parts have no mold-pour blocks, and mold part lines are either invisible or non-existent. There was, on the gun, a bit of flash present. This is a small, excess bit of resin that got between the halves of the mold. It can be seen top center here. A quick flick with a hobby knife and it was gone. 9. I also found two small holes caused by air bubbles in the mold. One is here on the elbow as seen here. Both were small and easy to fill with a small bit of thick superglue. .













10. The main resin part of the gun was slightly warped as seen in this top view with the gun resting against a straight edge. Both the pinhole air bubbles and the slight warp are not unusual in resin parts. The warpage was quite easily fixed as seen on the next page.



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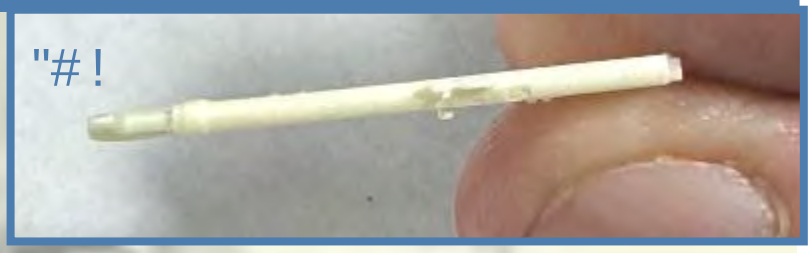

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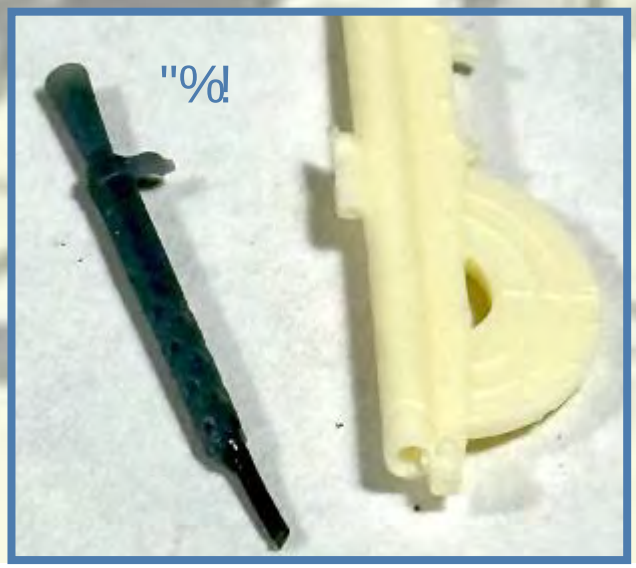
11. Resin has a "memory". So to fix a warped part, simply dunk it for a few seconds in very hot water. **12.** It will usually, as in this case, straighten itself out. If not, it will at least soften the resin so it can be gently bent back into position. Placed it under cold running water will "lock" the correction in place.

13. There are multiple ways to fix holes, voids, and gaps. If large, we can fix them with epoxy putty. In this case, I used superglue and a product called "Lightning Fill" - very fine tiny little beads, as fine as powder. A dop of superglue was placed in the hole, and the Lightning Fill applied. It set instantly and then some gentle sanding smoothed it out. It probably took me less time to fix the hole than to write this paragraph.

With the parts cleaned and prepared, it was time to move to assembly. How much you assemble before painting is a personal choice. However, any part that could not be put in place after other parts, or any part that would require putty work (to fill a gap, for example) should normally be assembled before painting. Anything that can't easily be reached with a brush after assembly should probably be painted prior to. I like to assemble a figure as much as practical to ensure all painted highlights and shades are from an exactly consistent direction (something more difficult in painted separate). When assembling, I prefer 2-part epoxy glue for strength, but superglue can be used for small, lightweight, non-loadbearing pieces. Any piece that is large, heavy, loadbearing, or prone to be easily broken off, I pin whenever possible. **14.** The easiest way to pin parts is to simply drill a matching hole in each piece and insert a bit of wire (I like paperclip wire) between them. However, if the gluing surface is large, it can be difficult to line up the holes exactly. **15.** A way to assist with this is to drill a precisely-sized hole in one piece for the pin, and then drill a slightly oversized hole in the other piece to ensure some play for proper alignment. The glue used to join them can fill the space.



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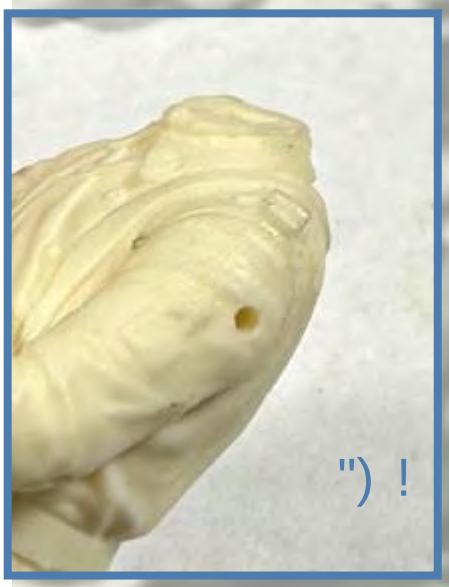
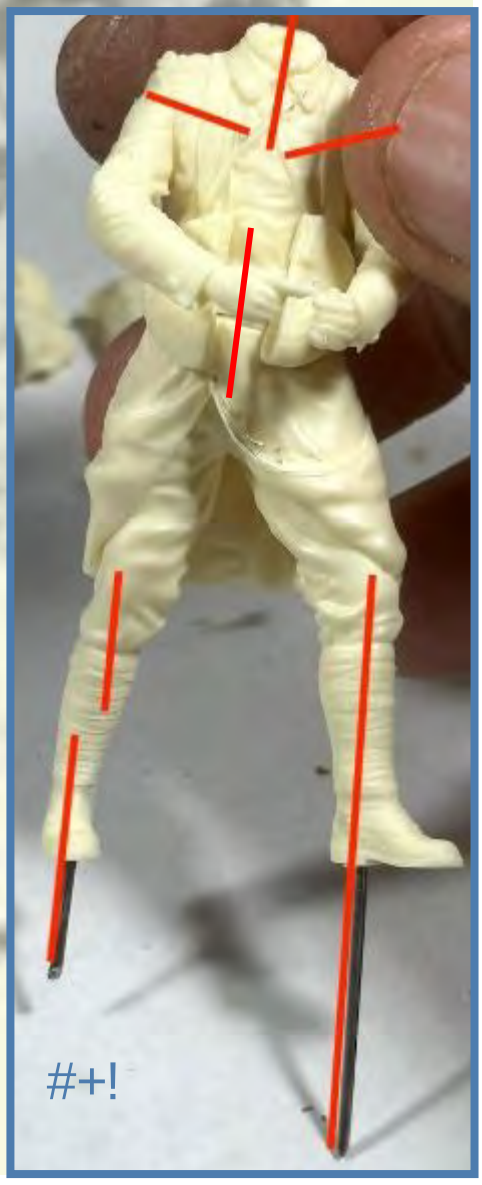
16. I had wanted to leave the Chauchat magazine pouches separate for painting, but a test fit showed they were difficult to put in the place if the arms were attached. Therefore, I glued them in place using superglue. Again, the parts are well-keyed and fit precisely… if you put them on the correct side. Try to place them backward, and you will have problems. 17. To ensure fit, I superglued the arms in place prior to pinning them (as we shall see). I did this with the Chauchat to ensure fit and alignment of all parts was perfect. The gun was not, however, permanently glued in place at this point.







18. At this point, the arms were merely superglued in place. To install reinforcing pins and a stronger glue, I drilled holes though the arm into the body from the outside. Take care not to damage detail when doing this—here I had to avoid the patches molded onto the left upper arm. 19. The pins, coated with 2-part epoxy glue were then inserted into these holes. Excess epoxy was used to close the hole. After curing, only light sanding was needed to make the work invisible. Pinning in this fashion requires a bit more work, but ensures exact placement. 20. In this photo, the location of reinforcing pins are indicated by red lines. The head and helmet (the pin goes from the torso, through the head, and into the helmet), both arms, upper and lower torso, and both lower legs were pinned. The left leg is largely straight so the pin extends from about 1.25 inches down into the base, through the foot, shin, and knee, and into the thigh. This was not possible with the right leg, so one pin goes from the shin into the thigh and another pin goes from the shin through the foot into the base. When practical, I always try to use two pins to attach the figure to the base—not necessarily for strength, but to ensure perfect placement as two attachment points are more precise than one. I may be kind of anal retentive about pinning, but in my earlier days of modeling when I did not do so, I lost some parts that came loose. Once, a large-scale head came off in my transport box while headed to a show: in addition to the damage to that figure, it damaged a few others bounding around. So yeah, I pin most everything I can.

21. Other various bits of gear (haversack, canteen, ammo pouches, etc) were simply glued in place. That was as far as I assembled the piece prior to painting. The head, gun, and bipod were left separate. We need a way to hold the pieces for painting. We do not want to hold the parts in our hands—we will paint our hands, smear paint, damage pieces, and cause untold other havoc and devastation. The oils in our fingers will also likely cause damage to paint (or at least make it look somewhat glossy). I mount my figures on a painting base—a block of wood big enough to give me a proper grip. The figures are friction fitted by their mounting pins into holes drilled into the painting base. This is another reason I like two mounting pins—with only one, the figure is likely to pivot while being painted. Some parts, such as the head in this instance, are held in a pin vise by their mounting pins. The gun had a hole drilled though the stock in a spot that would be invisible between the arm and the magazine pouch one assembled. A toothpick firmly inserted into this hole allowed me to hold the gun for painted. As mentioned earlier, I ignored the bipod at this point.

22. A critical step—the transition from assembly to painting—is priming. Priming is important for two reasons. First, any flaws you missed show up well under a coat of paint: any missed mold seam lines, air bubbles, or other surface imperfections show up clearly. This gives you the opportunity to fix them before applying your final colors. Simply do repairs and reprime. You can prime with a rattle can or brush, but I prefer to use my airbrush. Priming color is a matter of choice, with grey, white, or black being most common. I nearly always start with black. Here, I have the head and gun put temporarily in place. This prevents contact surfaces from being painted. After painting, we want to glue resin to resin… not paint to paint which would result in a very weak bond.







23. If I were limited to one color for priming, it would be black. When under my painting lights, the light on the black primer creates a nice, easy to see, high contrast. Black priming also ensures any deep crevices or voids not easily reached with a brush will be in a suitable dark shadow color of black. This is also why I prefer priming with my airbrush—it ensures I can get color into all those crevices and voids. But we are not limited to just one color. I like what is referred to as a "zenithal prime". After spraying black overall, I spray the figure from above (at about a 40-45 degree angle) all around with a thin layer of white primer. This mix of black with white from the direction of the light gives us a good roadmap of where all of our highlights and shades should fall. Photos taken at this step can be used as needed during the painting process.

Once the primer is thoroughly cured (if you can still smell the paint, it is not thoroughly cured), the head and gun are removed and put back on their holders for painting.



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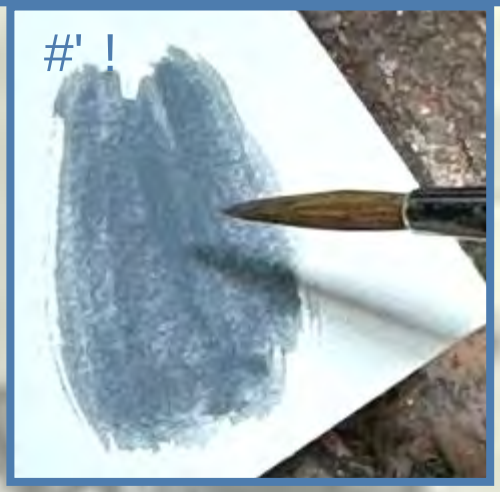

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There is no set order in which to paint a figure. It largely depends on the figure, your preference, and even your mood on any given day. Some people prefer to paint flesh first, others leave this task to the end. Some like to paint top to bottom. It does not matter- don't let anyone tell you it must be done in a certain way. Throughout this volume, I will generally cover each task in the order I performed it, and we will see variation. Generally, I like to paint from the inside out. For this figure, that means trousers, followed by coat, followed by puttees, followed by gear, etc. I usually paint flesh first or last. **24.** When painting, use a damp brush—the paint will flow much better than using a brush that is dry. I dip my brush in my water bowl, and then I roll the tip on a piece of paper towel to wick away excess water and to form the point. **25.** Many of the colors used to paint the various Horizon Blue items were from AK Interactive's "WWI French Uniforms" set. This includes Dark Sea Blue, French Greyish Blue, and Spectrum Blue. It also includes a Leather Brown color. These weren't the only colors used, and, as is my normal practice, I varied the color from item to item. As seen in the photo on page 25, this variation is realistic. It is also visually appealing and helps improve readability by "separating" the various items.

I started by painting the trousers. We will use these to show the basic mechanics of paint application. Then we will use the coat to show the individual layers of colors—base, lights, shades, and such. **26.** The base color for the trousers was French Greyish Blue desaturated with Elephant Grey and slightly darkened with a bit of Pavement. Colors are shown below. It was thinned with water to the consistency shown. This required two coats to get good coverage without leaving brush marks. **27.** To apply the paint, paint was loaded onto a damp #2 brush. Note that the paint is only loaded about halfway up the body. Do not get paint up into the metal feral or it may ruin the brush.



#' –$' !

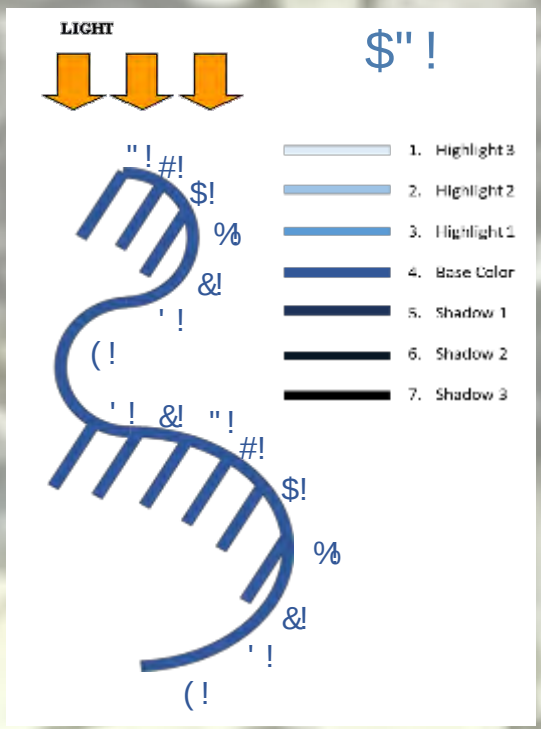
Here we see the colors used to paint the trousers.

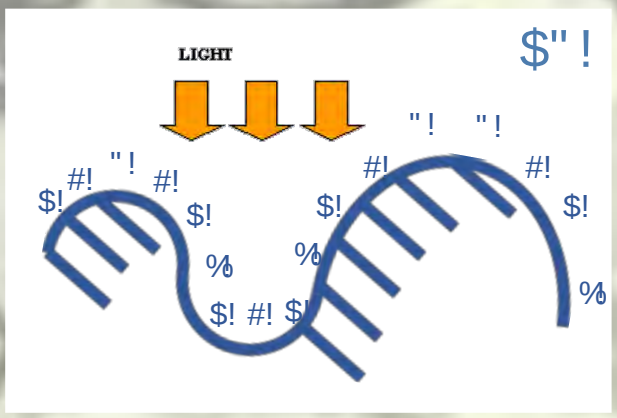






28. The base color was mixed in a well on my palette. Some of this color was transferred into another well, and the highlight color was mixed using this as a starting point. The first highlighted added a bit of Country Grey and Spectrum Blue. **29.** It was thinned to a slightly thinner consistency than the base layer. **30.** This semi-transparent layer of color was applied to upper surfaces and the tops of wrinkles and folds with a #1 brush. When we paint highlights and shadows, they must fall realistically. Remember the stoplight rule we saw back on page 8. It applies in all directions to all shapes as seen below. The rule applies inside wrinkles and folds, too. Do NOT just hit the high edges of items with the highlight color and flood shadow color into all the recesses. Consider the direction of the light! The inside of a wrinkle or fold that faces the light will be lighter. This is one of the biggest mistakes novice painters make. Also we must make sure all the various bits in our scene are highlighted and shaded to the same degree—and from the same direction. This latter becomes especially important when we paint parts prior to assembly: make sure "Up" and "Down" are exactly the same on each painted part.





These diagrams show how this applies on vertical folds and wrinkles. The inside and top underside of these are in the darkest shadows, but the top edge of the bottom of the fold is highlighted. Clearly, if we simply allowed our shadow glaze to flow into recesses the result would not be realistic. This is more apparent if we lay this diagram on its side creating an upward facing horizontal fold or wrinkle. To paint this, no shadow color is actually used—only the base and various levels of highlight.



32. To help make that point clearer, refer to this photo of a valley. The floor is actually the brightest part!









Highlighting continued with each layer getting lighter and lighter and being applied to a progressively smaller and smaller area. The second and third highlight each more Country Grey and Spectrum Blue. **33.** The final highlight, applied only to the upper edge of seamlines, was straight Spectrum Blue applied with a fine #0 brush. **34.** Shades were applied using glazes of progressively darker color applied primarily with a #1 brush. My shading glazes are generally a bit thinner than my highlight glazes. The first shade was created by adding Dark Sea Blue and Pavement to the base color. The second shade added Black. The final shade was straight Black and was applied only in the deepest shadows, for outlining, and in the recessed seams. Note that at this point, the outer seam is a thick Black line. That is because the seam itself will be a welt of yellow piping. **35.** Here we see, at the bottom, the second shadow color and, at the top, the third highlight color. This shows the wide range we often see between our shadows and our highlights. **36.** The branch piping (yellow for infantry) was added down the middle of the black line leaving only a fine shadow line of Black on each side. The piping was non-metallic Antique Gold highlighted with Straw.

Other than later weathering, the trousers were complete. We will use the coat to illustrate each layer of color applied. To vary the color from the trousers, the base color was created by mixing French Greyish Blue and French Artillery Grey in a 2/1 ratio. **37.** This base color was mixed in the same consistency as the trouser base and was applied with a #2/0 brush. Here, we see the coat after the first application. The color is uneven and, in some places, the primer shows through. **38.** A second layer completed the base coat, giving us a nice, opaque color.





FRENCH CHAUCHAT GUNNER!













Highlights were gradually built up as we did with the trousers. Each color got progressively lighter and covered a relatively smaller area. The upper portions of the figure were given more highlights than the lower. **39.** The first highlight, barely noticeable, was created by adding Spectrum Blue to the base color. Highlights on smooth cloth surfaces should be gradual to give a smooth, natural appearance. As mentioned previously, these transitions should be more subtle and more gradual as scale gets larger. In smaller scales, more abrupt and starker changes are OK. **40"43.** The second through the fifth highlights each saw progressively more Spectrum Blue added to the mixture. Each also got slightly thinner and thus a bit more transparent so that the transitions were smooth. Early highlights were applied to appropriate points all over. Later highlights concentrated mostly on upper portions. **44.** The final highlight, created using straight Spectrum Blue, was applied to edges and seamlines only. This is called edge highlighting. Combined with outlining, it really makes details "pop" and aids readability. Paints used and the mixes created are shown on page 36 and 37.





45. Some minor variation in edge and seam color was added using small dots and lines of Country Grey and Pale Blue Grey applied with a #2/0 brush. Some minor scratches (primarily on lower surfaces) and a bit of texture was added using tiny dots and lines of this color. They are so small and faint that they are barely noticeable, but will help contribute to the overall effect. **46.** Here is a front view of the coat at this stage.







Shadows were added next. These were applied as thin glazes to all areas in shadow. Deeper shadows were applied to lower surfaces and inside the deeper folds, crevices, wrinkles, and voids. **47.** The first shade added Dark Sea Blue and Pavement. **48.** The next shade added Dark Sea Blue and Black. **49**. The third shade added Black. Shades were added using a #1 and/or a #0 brush. Generally speaking, glazes I add for shades are a bit thinner than glazes I add for highlights. This is not a hard and fast rule. Likewise, I generally use fewer levels of shadow than I add levels of shade. Again, this is not a hard and fast rule. The color and the figure usually dictate.







50. The final shade was Black. This was also used for outlining. **51.** Details were also outlined, including things like buttons and the patches on the left sleeve. The inside of seams were outlined in the dark shadow color as well. The combination of dark line in the seam with highlight on the edge makes the detail "pop". This both looks good and aids with readability.

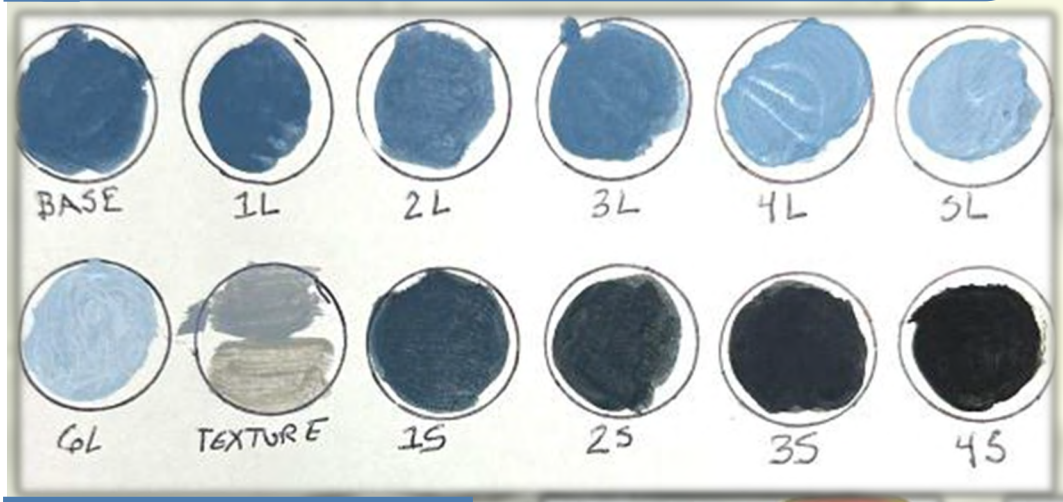




52. A final optional step is what I call a "Blending Glaze". This is a very thin (as seen in the photo of the brush being unloaded on a paper towel) glaze of the base color applied selectively on the figure. I primarily add this to transition points between lights and shades to smooth the transition. It can also be used, if needed, to knock down highlights that are too stark or bright and to bring up shadows that are too dark. The change is minor, but it serves to gently blend and smooth the paintwork. Compare photos #50 and #52 for a before and after comparison.



Here we see the colors used to paint the greatcoat.



At the bottom of the previous page we see the colors used to paint the coat. Here we see the mixes created for base, highlights, and shadows. While the coat is a solid color, note the value difference between the highest shade and deepest shadow. This is the concept of scale light explained and illustrated back on Page 9







53. The insignia on the left sleeve and collar were painted using the colors shown. The specialty patch was painted Intermedia Blue and edged with Pale Blue Grey. The Chauchat surmounted by a grenade was painted True Red. This was not an officially-sanctioned patch, but such insignia was created and worn by some units. The service chevrons were given a backing of French Artillery Grey and painted Blue Grey. The insignia on the collar was painted Blue Grey and given a highlight of Dark Blue Grey. While that sounds odd, the paints come from different makers. Vallejo Model Air's Blue Grey is noticeably darker than Apple Barrel's Dark Blue Grey.







54. The puttees were based in Intermediate Blue. **55.** To provide outlining for all the wrapping, a wash of Black was applied. The consistency was fairly thin as can be seen above. Here, we see the wash applied to the plastic surface in the center of my well palette. Once dry, it provided good outlining, but it darkened the puttees.







56. To correct the darkening, the base Intermediate Blue was reapplied to all areas except the shadows. 57. Highlights were then created by adding Pale Blue Grey to the base, and edging was accomplished using straight Pale Blue Grey. Colors used are shown above right.









To this point we have recreated cloth. With the helmet, we want to give the impression of a metal surface. The most important part of this is to create a smooth surface free of imperfections and brush marks. Highlights should be added where the metal would reflect light. Realistic wear and chipping helps sell the effect, too. 58. The base color was a mix of Deep Sea Blue and Intermediate Blue in about a 3 to 1 ratio. 59. The first two levels of highlight were created by adding Intermediate Blue. The third level was straight Intermediate Blue. Edging added Spectrum Blue. The first shade was Deep Sea Blue, the second shade added Black, and the final shade—outlining only—was Black. 60. To create chipping on the painted surface, I used two different mixes. First, I added light-colored chips using Spectrum Blue. These represent scratches and the three-dimensional edges of deeper chips. 61. Deeper chips, going down to the base metal, were inside of most, but not all of the lighter chips. This color was created by mixing Black Grey with German Red Oxide Primer. Colors are shown at the top of the next page. The leather strap was painted later with the various leather items.







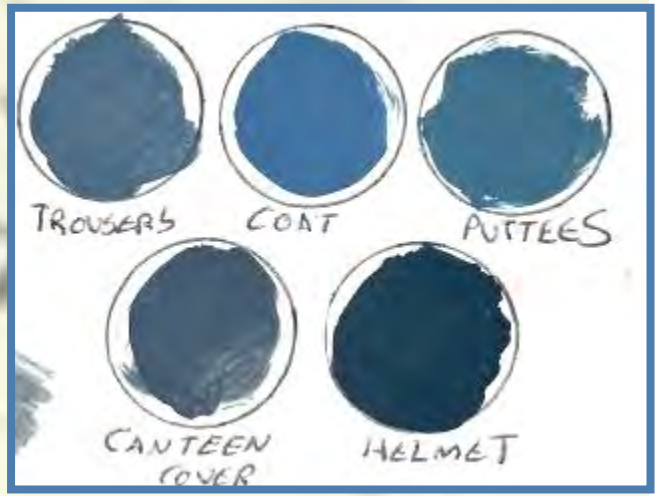


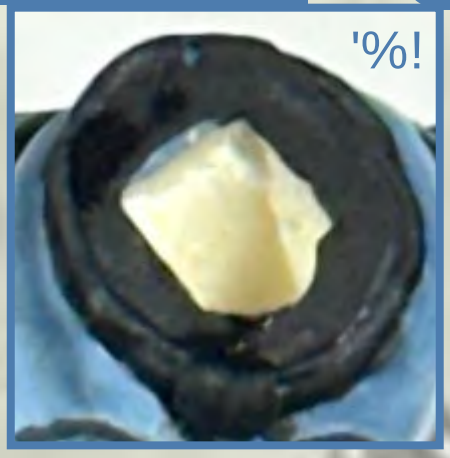


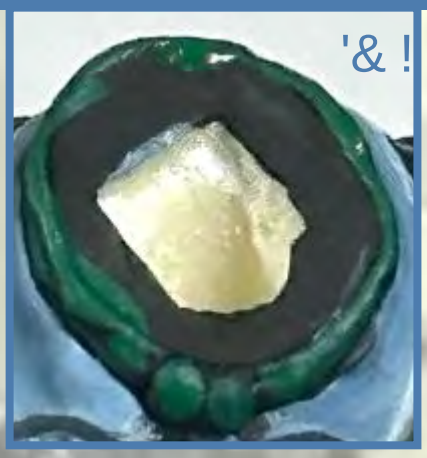


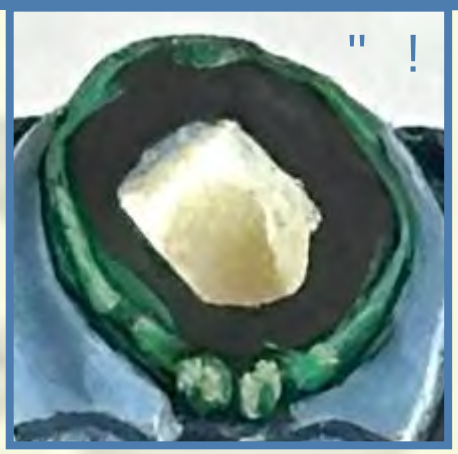
62. The base color of the canteen was a mix of Blue Grey and Intermediate Blue. Highlights were added by stippling (dotting the surface with an old brush) to create a rough woolen texture. This was done using, in order, Intermediate Blue, Pale Blue Grey, and Grey Blue. Shadows were applied on the face by stippling a mix of the base and Black. On the sides and bottom this color was applied as a glaze. Outlining of the various details was accomplished using Black. **63.** Details finished the canteen. Laces (on the side nearest the viewer in this photo) were Leather Brown highlighted by adding a bit of Tan. The lanyards holding the cap and vent plug were painted Linen. Metal items on the cap were based coated using Lead and highlighted with Silver. Both of these colors are from the Excellent Andrea "Silver Paint Set" which we will look at in a bit more detail shortly. The cork portion of the cap was painted using Territorial Beige. The wooden vent plug was painted Dark Brown highlighted with Territorial Beige.

The canteen cover was the last of the Horizon Blue items on the figure. Although ostensibly the same color, each horizon blue piece was painted slightly differently. The base-colors are seen at right. This provides realism and also provides visual interest. This figure proves that monotone figures do not have to be boring.











64. An alternate method that I often use when painting a very dark or a very small item, is to paint dark to light. In other words, I start with Black (or other appropriate dark color) and work up though the base to the highlights. I did that with the scarf. I chose green because we already had enough blue. I thought about red, but the leather was red-brown. So I decided green would add a nice splash of variation. As seen here, I started with Black. 65. Leaving the Black for deep shadows and outlining, I added Dark Green. 66. Highlights were further built up first with Deep Green and then with light Green. These three colors come from AK's "Orcs and Green Models" paint set. It also includes a Dark Green-Grey, Olive Green, and Golden Olive. It is a set I use often when painting greens. Finally, edging on the knot was added using a mix of Light Green and Khaki.







67. For the Haversack, I turned to another useful paint set: Andrea's "Khaki Paint Set". This includes a base, light, and shade for two versions of khaki—one greenish (A) and the other brown (B). The base was a mix of Base B and Light B. The first two highlights were added normally using glazes. The first light added Light B, the second light was Light B.





68. To create a rough canvas texture, subsequent highlights were applied using fine cross-hatched lines. The third light added Linen, and the final light was linen. To create the edging on the flap, Antique White was added to the Linen. **69.** I decided at this point that I needed to add buttons to the haversack. Using a sharp hobby knife, I cut "salami slices" of .88mm styrene rod. To apply, these were picked up with the sharp point of a scriber, lightly dipped in superglue, and then placed in the appropriate locations on the bag.



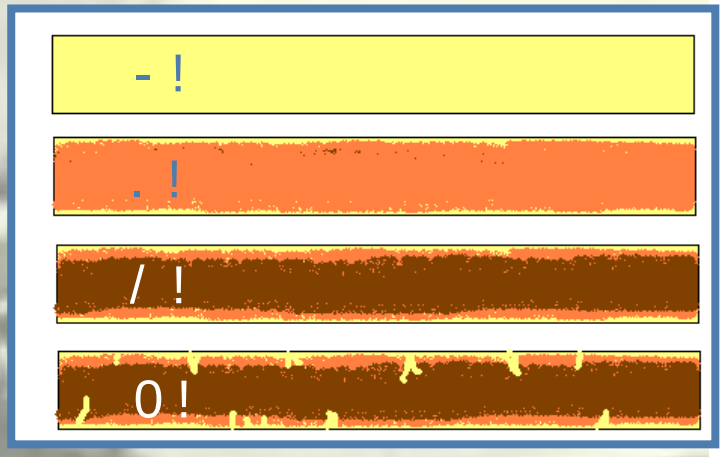






70. Shades were added normally using glazes. The first shade added Shadow B to the base. The second shade was Shadow B, and outlining and deepest shadows were done with Black.. The buttons were painted using the same colors from Andrea's "Silver Paint Set" that we used on the canteen cap. This set, along with the similar "Gold Paint Set" each contain three acrylic metallic colors (base, light, and dark) and three acrylic inks. The metallics, while nice for small details, are rather thick and not suitable for creating smooth finishes on large surfaces or for airbrushing. The inks however, (Brown, Blue, and Black in the Silver Set and Chestnut, Yellow, and Black in the Gold Set) have become my most-used inks over the last few years. **71.** Here is a bottom view. Compare this with the top view in #70 and you actually get a good example of the "Stop-Sign rule discussed back on Page 9. **72.** The same colors and methods were used to paint the haversack strap.

The next task was leather. Just as we did with cloth and the steel of the helmet, we want our viewer to read the items as leather. Sometimes depicting different materials or textures requires different methods. Leather is an example. To achieve this, I use a slightly different method than we have seen so far. For this figure, I wanted the leather to be weathered and worn. The process I generally us can be illustrated by the graphic at right. **A:** Start with a light base color. **B"C:** Gradually build up darker colors, leaving the lighter colors showing in the wear areas. **D:** Add some cracks and edging using a still lighter color. Not shown here, I often use inks in areas of little or no wear to enhance the color and add a slight bit of sheen. We will see several examples using various colors, with and without inks, with this figure.





At left we can see sample colors for painting worn black leather that would work with this process (Raw Sienna, Autumn Brown, Burnt Umber, Dark Burnt Umber, Dark Burnt Umber plus Black). Black is used for outlining.

Textures: Actual Reality vs. Implied Reality!

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So far, we've looked at recreating the textures of cloth (from smooth to rough) and painted steel. We're looking at leather now. Still to come are flesh, wood, bare metals, rusty metals, earth, mud, and so on.

Texture on our miniatures is like an actor's expression in a silent movie or stage makeup in a play. In the silent movie, expressions are often exaggerated to get the emotion across where there is no sound to assist. Likewise, stage makeup on actors is often grossly overdone because it is designed to be seen by an audience 40 feet away—not closeup. Likewise, the smaller the scale we work in, the more exaggerated and overscale our detail must be in order to be seen and understood. Thus, while these aspects of our figures are often unrealistic, they actually enhance the appearance of realism. Viewers will see it as realistic without thinking about the issues of scale.

What are these scale issues? Much of this has to do with sculpting. If you view a person from such a distance that they appear as a miniature, you will not be able to see texture such as, for example, links in chain mail (actually only about 3-5mm in size). It would appear perhaps as a series of fine lines or simply a textured metallic surface. The same is true of woodgrain… or flush rivet detail on small scale aircraft. It also applies to painting – in general, fabric texture would not be apparent, either...but we've already created several different textures of cloth.. Weathering effects? Things like chipping techniques, such as I used for the helmet and very common in armor modeling, are, in reality, usually overscale. But if done well, the technique look good and gives the impression of hard use and wear. These are just examples, I'm sure you can think of plenty more instances.

To depict actual reality, all we need sculpt and paint are shapes, light, shadow, and the differing reflections caused by different materials. The smaller the scale we work in, the truer this rings. But if we were to paint and sculpt in an absolutely realistic fashion, our figures would look flat and lifeless and would not give the viewers adequate clues to the materials depicted. So to give the appearance of reality and to depict materials and textures in a way the viewer can see and understand, we use exaggeration… just like that stage makeup. Many of the extreme highlights and shades we add—especially edge highlights and outlining—are, strictly speaking, unrealistic. But they look good and they help with readability, making our figures easier for the viewer to understand. We add woodgrain. We sculpt mail. And we paint texture. For me, I generally ignore these textures (focusing only on light, shade, and reflection) in small wargaming scales – maybe only adding hints here and there. This is how I paint in 1/48th scale, for example. In 1/32 or 54mm scale, I start adding more. By the time I get to 75mm or 1/24th, textures are fairly well developed, and become more pronounced as the scale increases as we will see in this series of builds. It looks great in miniature, but if we could enlarge our figures and models to life-size, these features and textures would look grossly oversized. But remember, we are not recreating reality—we are only creating the* impression *of reality.

Thus, by pushing past the boundaries of actual realism, we enhance apparent realism. Call this "artistic license", and one of my compositional commandments (page 21) is "Artistic License is OK." This is simply another example when even those who say they stanchly oppose artistic license actually use it themselves without even being aware.









73. For the boots, I started with a base color of Autumn Brown (mixes are seen below and colors used are seen at bottom left). **74.** Darker color was gradually built up using glazes of color. While still wet, these glazes were wiped off of wear areas, allowing the underlying colors to show through. I started with Leather Brown. Next was Leather Brown plus Black. **75.** Areas of high wear and edging were added using Territorial Beige. **76.** The boot was finished by painting the details. The soles were painted using a mix of Pavement and Dark Brown, edged with this color plus Khaki Light B. The laces were painted using Khaki Light B. Outlining was accomplished using Black.





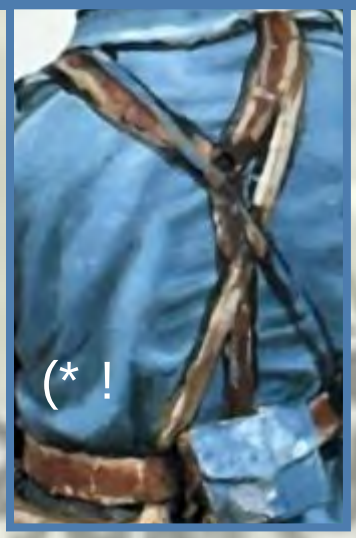






77. The belt and suspenders were based using a mix of Autumn Brown and Territorial Beige. Mixes used are shown above. Colors used can be seen on the next page.









78. Color was built up using glazes first of Dark Brown, then Dark Brown plus Chocolate Bar, and finally the previous mix plus a small amount of Black. **79.** Edging and cracks were added using Tan. 80. Here we see the front view. In this view, the canteen strap has also been painted. Note the buttons on the coat. French coat buttons were horizon blue painted brass. Although not shown, the buttons were first painted Brass, and then given a heavy wash of Dark Sea Blue. Some highlighting was applied by adding French Greyish Blue. The canteen strap was painted using various mixes already on the palette. I mixed a color a bit darker and redder than the belt and harness. Only two mixes were used as the strap is thin—a base color and an edging/cracking color.







81. The ammunition pouch on the rear of the belt was painted in the same fashion. Colors and mixes are shown. The base was a mix of Territorial Beige and Autumn Brown. Color was built-up using first Autumn Brown and then Burnt Umber. Wear and edging was accomplished with Khaki. Outlining was done using Black, and the snap was painted Brass.

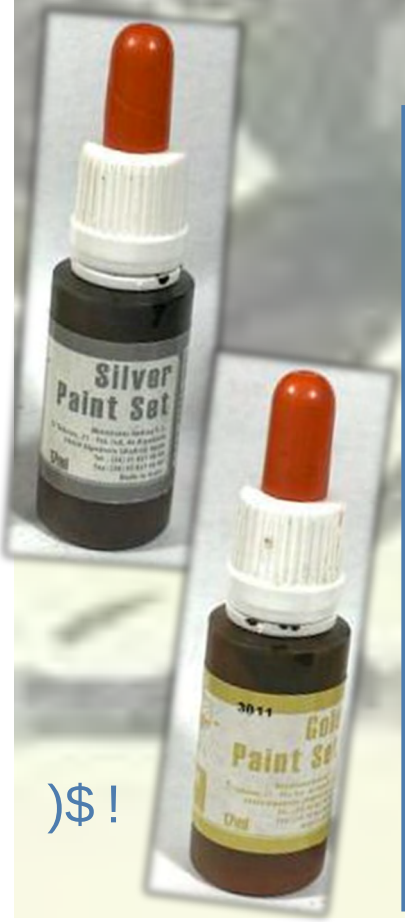






82. The Chauchat magazine pouches were a bit darker and redder. The base was Tan plus Autumn Brown. Color was built-up first using a mix of mostly Chocolate Bar with a bit of Dark Brown. Next, a thin wash of this color plus Black was added. Note how using the thinned color let the sculpted ridges in the pouches show. Wear and edging was done using Tan. As with all leather items, appropriate outlining was done using Black. Snaps were painted Brass.

83. As a final step, some leather items were treated with a glaze of ink in the darkest areas (the areas with the least wear). This added a bit more variation and, more importantly, helped impart a leather texture by giving the items a slight sheen. By applying the ink only in the selected areas, it helps reinforce that the other areas—the lighter colors—have been worn, removing any slight shine the leather may have had when it was new and smooth. Brown or Chestnut inks were used to accomplish this.







FRENCH CHAUCHAT GUNNER!





The last bit of leather was the helmet strap. Due to its thinness, this was painted using a slightly different method, but getting largely the same result. **84.** First, the entire strap was painted in the lightest wear color. **85.** Then, leaving a thin line of the wear color to provide edging, the darker color was painted as a strip down the middle using a fine brush.

With all the various bits of uniform and equipment except the gun painted, attention was turned to the flesh.

You have many options when painting flesh. You can create your own mixes using individual colors or you can use one of many flesh sets on the market. You can even do both, mixing and matching to meet your needs. Lets compare some sets and options. To keep this manageable, let's look only at "basic" flesh colors and highlight colors. Although I often use Antique White as a highlight, too, it is not really a flesh color and is not included here. Also, I did not look at shades. My shades are pretty consistent, being most red browns of various values with some Black in deep shadows whether I am mixing my own or using a set. The top row of the graphic at right shows all the colors included in the Vallejo "Faces and Skintones" set. Note this set is not a "system" designed to be used together to create a certain effect—it is merely a collection of colors. The second row includes the four basic flesh color included in the Vallejo "Face Painting" set seen below. The other four colors, not shown, include Burnt Red, Black Red, Red-Violet, and Black. I used this set for this figure, so all, or nearly all, of the colors in this set found their way into this figure as we shall see. These colors are designed to be used together and include base, highlight, and shadow colors. Note these two sets share two colors. The bottom row shows the three Ceramcoat craft paints I often use. These three colors, shown in the inset with the first three colors from the "Face Painting Set" are seen compared. Note they are nearly identical. So it really didn't matter which I used.



Flesh Color Comparisons!





THE EYE OF THE BEHOLDER!

What is the most important attribute of a well-painted figure: detail, medium, colors, textures, weathering? All of those things help, but it is the eyes that viewers are often drawn to—especially in large scales. "The eyes are the window to the soul", and while pose and gestures help, it is largely he eyes that we give our figures emotion. Getting the eyes right isn't like painting any other detail, but is vital. In life, which we are recreating the look of in miniature, the eyes are how we relate to other people. A great deal of nonverbal communication is done with the eyes.

Unfortunately for the figure painter, in addition to being the most important, the eyes are also the most intimidating and challenging to paint. Painting them is hard precisely because viewers are so familiar with eyes and because they are so important… not to mention relatively small—even in these large scales. In the scale of this figure, 75mm, they are only a couple millimeters in their largest dimension. Before we start painting the eyes let's take a deep dive into some of the concepts, principles, and hacks for painting better eyes.

When we learned to draw eyes as children, we would start with a hard outline in an almond shape. But we don't actually see this on a real eye. There should be a hard outline on the upper lid. This represents both the upper eyelash and the shadow line under the upper lid. On the lower lid, however, the top edge is normally a highlight. Therefore, a much lighter line (either a flesh highlight, a pinkish color, or a light brown) is normally sufficient.

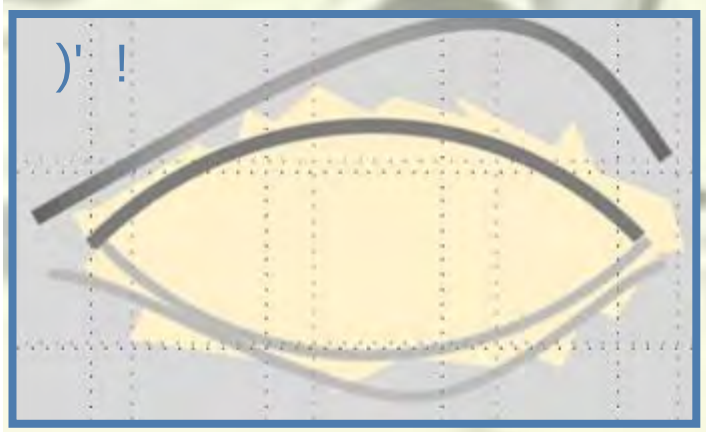
The "white" of the eye is not white; it will have a slight tint. I generally use a very light flesh color or an off-white with the tiniest hint of yellow or red. At least a portion of the white will be in shadow—not just the shadow line of upper lid but also shadow caused by the curve of the eye. In some cases, this can cause part of the white to be very dark or even black. Highlights will be near the iris— as the eye is round that is normally the part closest to the viewer so will look to be brighter. These areas of light and shadow will ensure the eye is painted in a consistent manner to the rest of the figure and will also make your eye more realistic and believable. Also, the white will have a touch of pink at the inner corner where the eye meets the tear duct. In smaller scales, an off-white or pale flesh color is enough to suffice. In large scales, I add that that detail.

While the iris is round, part of it is nearly always covered by the eyelids. A complete, perfectly round iris will make your figure look pop-eyed. Do this only if you want to depict a scared or startled expression—and this only works if the eye is sculpted fully open! When painting, take care to make the irises as close as possible to the same size and shape. Most importantly, make sure they look in the same direction. If you have trouble painting matching irises, it can help to paint the side you are best at while holding the figure upright, and then painting the other eye holding the figure upside down! It is generally the lower portion of the iris that will show a highlight as the upper portion is in the shadow of the brow and eyelid.

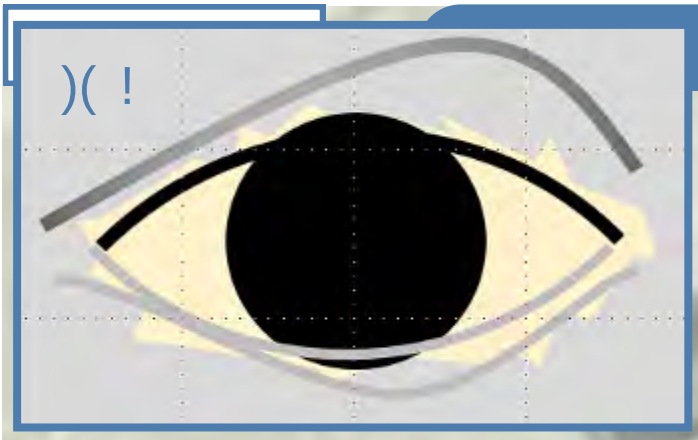
There are few "rules" about precise colors to use in any given situation. The pupil is an exception. It should be pure black. ALWAYS. Any other color will lessen its impact and importance. In reality, human eyes do not always have perfectly round pupils, but they will be close. In miniature, we should strive to get as exact as possible. Depending on where our highlight (catchlight) is, the pupil may be partially covered, but what is visible should always be pure black.

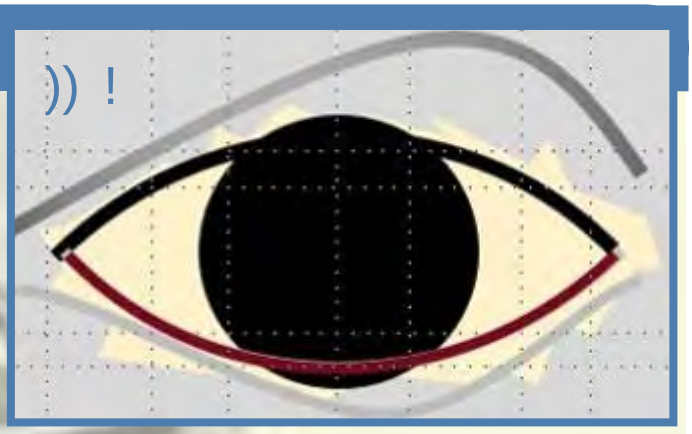
There are various opinions on catchlights. Some claim that like non-metallic metal (NMM), a catchlight only works from a certain viewing angle and therefore do not add them. Some use a gloss cote instead, and let the natural light of the area provide the appropriate reflection. I like to do both, at least in larger scales. In my opinion, without a painted catchlight, the eye looks dead. The gloss cote provides not only reflection, but also adds a look of moisture to the eye, bringing it to life. A catchlight is actually a reflection of light on the cornea—the clear surface over the iris and pupil. This light will travel through the cornea in a straight path and land on the opposite side. Therefore, our painted catchlight and highlight on the iris should ALWAYS be directly opposite each other.

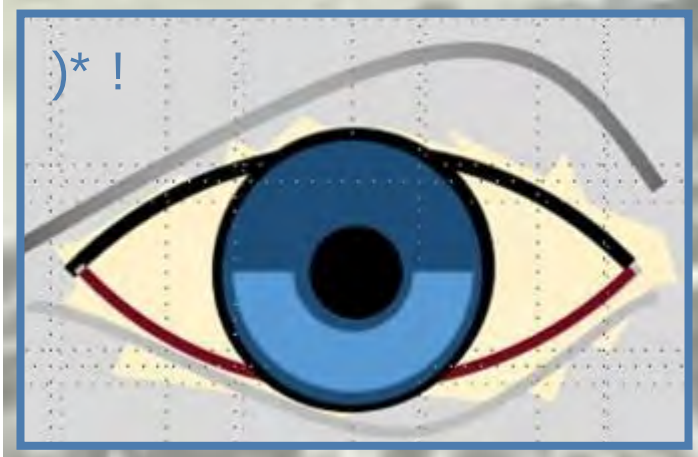
So what does all this mean for us? We looked at this briefly back on page 15. In the smallest of scales (say 25mm or 1/72nd), the basic flesh color can serve as the white along with a black line for the upper lid and a dot for the iris. Conversely, in the largest scales (say 1/9th, 200mm or larger), we may actually need to shade and highlight the eye white, add a tear duct, put radial line detail into the iris and so on. In most scales (let's say about 54mm on up to about 120mm) a middle ground is usually sufficient with the amount of detail added slightly increasing as scale enlarges. Here, we will look at how I approached the task on an intermediate, 75mm size.

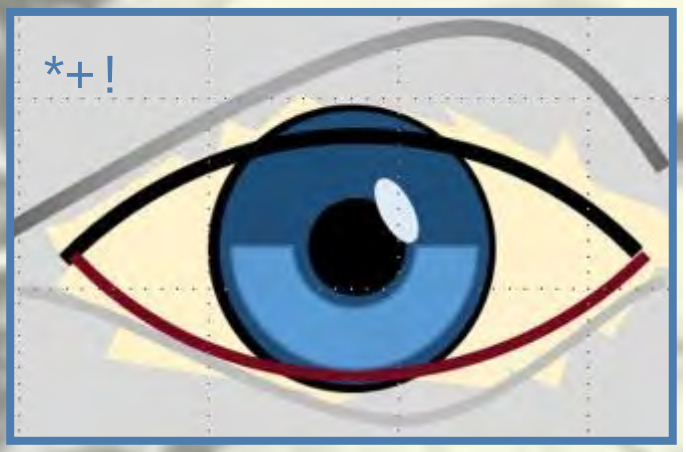


As the figure's eyes are small and hard to clearly photograph, we will show the process using diagrams. Then we will look at a few photos showing the process on the actual figure. **86.** I started with process by painting the whites using a slightly yellowish off-white color, Chamomile. In the diagram, the grey lines are the sculpted detail on the figure. Note the Chamomile does not remain within the sculpted lines. While we want to be neat, we need to ensure the eye is covered. If a bit goes outside the lines, it will be taken care of later.









87. The upper lid was painted Black. Black was also used to add a circle representing the iris. Note this circle extends above the upper lid and below the lower lid. If it were contained entirely within the eye, our figure would have a "bug-eyed" look. **88.** The lower lid was lined in using Chocolate Bar. **89.** Leaving a thin black outline, the iris was painted in the desired color. In the diagram it is dark blue, but for this figure I used Autumn Brown. This was highlighted on the bottom portion of iris using a lighter color, Chestnut in this case. Remember, the eye is an orb—light enters from the top (where the catchlight is) and exits the bottom of the lens. Therefore, the highlight is on the bottom. **90.** The eye is still dull and lifeless at this point. To brighten it, a catchlight (reflection) was added at about the 2 O'clock position using a very light mix of White plus Pale Blue Grey. As a final, optional step, I like to give my eyes a coat of Clear Satin varnish.





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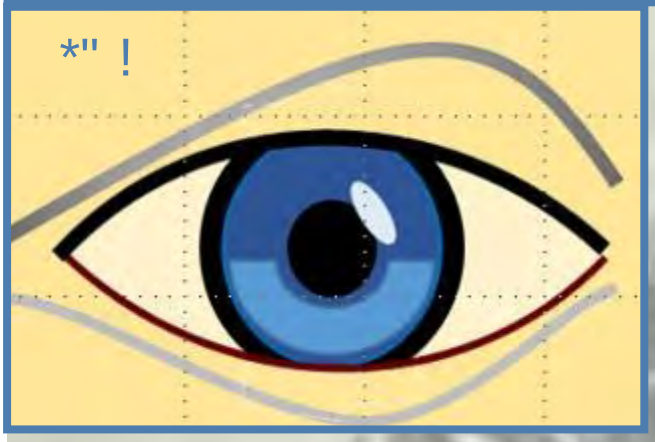
All the colors used for the eyes, including the satin varnish, are shown at right.

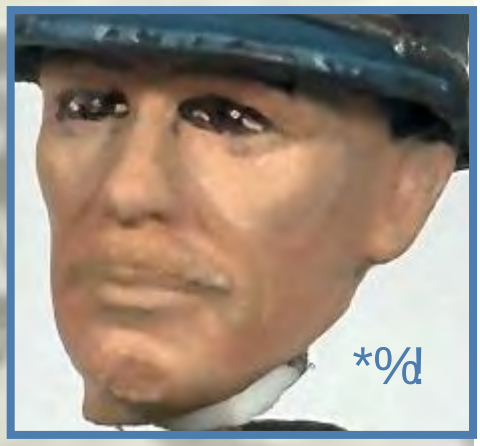


91. The portions of the iris extending above and below the lids, as well as any spill over of the eye whites, and corrected when the flesh base color is painted.







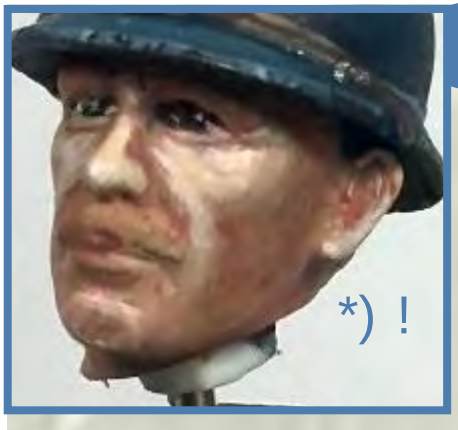








Let's look at the flesh painting process. This figure does not have a particularly expressive face, but is still well done with good detail. Colors and mixes used are shown on the next page. I used many of the colors from Vallejo's "Face Painting Set" seen on page 46. **92.** Here we see the first layer of base color applied. This was applied thinly in order to get a smooth finish, avoid brush marks, and avoid obscuring detail. The base color was Beige Red. **93.** Here we see the base color applied after three thin coats. **94.** Highlights were gradually built-up applying thin glazes of color. The first highlight added Basic Skin Tone to the base color. **95.** The second highlight was straight Basic Skin Tone. Note that the highlights were applied to the nose, tops of the nostrils, tops of the lower eyelids, chin, cheekbones, and the edges of the ears. Each progressive highlight got lighter and lighter and covered a smaller and smaller area. **96.** The next highlight added light flesh. Note that with this highlight, I started picking-out detail such as the wrinkles at the edges of the eyes and the slight downturn of the ends of the lower lips. 97. The final highlight, applied very sparingly to the tip of nose, the very top of the cheekbones, and the earlobes, was straight Light Flesh. Note that the forehead is in the shadow of the helmet and is thus not highlighted as it normally would be. Also note that the hands were painted at the same time, using the same colors and mixes.











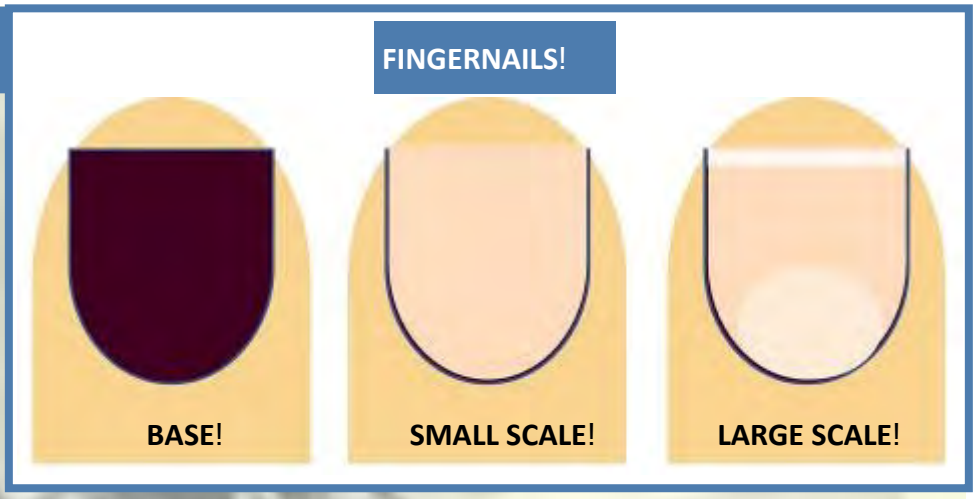


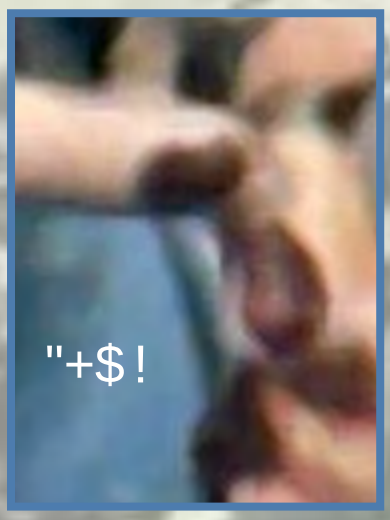


Next, I turned to shades. Like the lights, these were applied as glazes over the base color. Each shadow was progressively darker and covered smaller areas. Shadows were applied under the helmet and eyes, the sides of the nose, the hollows of the cheeks, under the chin, inside the ears, the lines on either side of the nose, and around the hairline. **98.** The first shade added Burnt Red to the base. **99.** Next, Black Red was added to the previous mix. **100.** The third shade added a bit of Black. **101.** The final shade added more Black. Note that the hair was base-colored in this dark shadow color. Above we see the colors used (all from the Vallejo "Face Painting Set") and the mixes applied. "B" equals base, "1L" equals first light, "2S" equals second shade, and so on. **102.** Although the face looks decent at this point, we can clean it up a bit, add some more color, realism, and visual interest with additional glazes of color. I started with what I call a "Blending Glaze" of the base color (Beige Red). This is a VERY thin glaze selectively applied to areas of transition between highlight and shade to visually blend the colors together giving us smooth transitions. The glaze is so thin, it may take several coats. This glaze can also be applied as needed to very slightly knock down highlights that are too stark or bring up shades that are too dark. Other glazes were also applied. Dusty Purple was applied in the bags under the eyes, the sides of the nose, inside the ears, and on the backs of the hand. Bloodfest Crimson (from AK's "Unnatural Flesh" paint set) was applied to the cheeks, the tip of the nose, and the ear lobes. This is one of my favorite colors and is used for most of the flesh I paint.



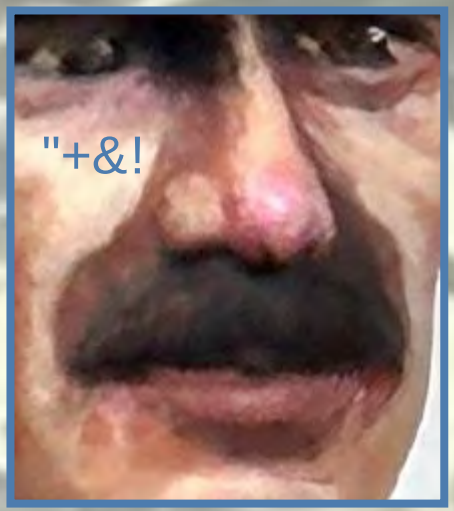
The final step in the Flesh process is details. These include the fingernails, lips, and Hair. Let's first look at the fingernails. My process is shown in the graphic at right. Fingernails are base-coated in a medium or dark shadow color. For this figure, they were based in the third shade. Then, leaving a small outline of the dark showing, the nail is painted in a light flesh or pinking flesh color. For small scale figure, that would be enough. As the scale gets larger, we can add details of the lunula and the edge. **103.** Here we see the nails based in the 3rd shadow color. **104.** The final nail with detail added. The nails were painted Salmon Rose, the lunulas were painted Salmon Rose plus Light Flesh, and the edges were painted Light Flesh. Colors are seen at right.















105. The lip (the lower lip is the only one visible) was based in a mix of Burgundy Rose and Brown Rose. The latter is from Vallejo's "Faces and Skintones" set (see page 46). **106.** Highlighting was applied using small hashed lines to recreate the texture present in lips. The highlight was Brown Rose. Colors used are shown at right.









The final step was the hair. My method for painting hair varies depending upon how it is sculpted—be it just basic forms or whether individual strands and clumps are present. In this instance, it was the former. **107.** The hair had already been base-coated using the flesh deep shadow color. The first highlight followed these basic forms, leaving the base color only in the shadows. For this, I used Burnt Umber. **108**. The second light, applied to highlight areas only, consisted of Autumn Brown. **109.** The final highlight, applied as fine lines for texture, was placed only at the points of highest highlight. For this, I used Autumn Brown plus Tan. With that, all the flesh areas were finished as can be seen below.









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The last painting task for the figure itself (prior to weathering) was the Chauchat. When it comes to weapons, don't just paint them in a dark gunmetal color and give them a dry-brushing of silver. A firearm is made of multiple parts, often of multiple materials, and we need to recreate this in miniature. In this instance, the main metal assemblies of the weapon are the upper and lower receivers, the barrel, flash suppressor, the magazine, and the bipod (painted later). We also have the wooden stock we will tackle in a bit. For the metal areas, I used the colors seen at left. Note that this includes two metallic colors (Black and Steel from Vallejo Model Air), Black ink, and three acrylic craft colors—Burnt Umber, Black, and Brown Iron Oxide. As we shall see, we also used pencil lead.



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110. Each of the above listed items was base-coated in a slightly different mix of Black metallic, Black, and Burnt Umber. **111.** The metallic look was enhanced and an overall wear was applied by using pencil lead. As seen at right, a pencil was rubbed against sandpaper to create powder. I used fine sandpaper in this instance as I wanted fine powder. Some of this power was picked up with the end of my fingertip and, as seen below, was rubbed onto the model—heavier rubbing and more pencil lead was used on high wear areas, less where there was less wear. While I used a finger, you could also use a rubber cone brush, cotton bud, or other appropriate tool.





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112. Here is the result after the application of the pencil lead. **113.** Additional wear and edging and added by first adding Steel to the various base colors and then by using straight silver to edges, bolt heads, etc. **114.** Outlining of all the various pieces and components was done using Black ink. The magazine was based in a lighter color consisting of a mix of Steel and Burnt Umber only. **115.** Edging and wear was added to the magazine using straight Steel. The magazine was given washes of, first, Brown Iron Oxide to create a slight rust patina, and then—after the first wash was completely dry—a thin was of Black ink for outlining.



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116. Using the colors shown at left, the bullets in the magazine were paned. Only the casings are visible. These were based using Brass and sparingly highlighted with Old Gold.













The final step for the Chauchat was the wooden stock. Colors used are seen above. 117. The base color for the wood was Territorial Beige. Don't forget the wooden pistol grip and foregrip when painting the wood! These are cast as part of the figure's hands. 118. Next, grain was added using a mix of Burnt Umber and Black. Edging and wear was added using Tan. 119. Color was added using a semi-transparent glaze of oil paints. As seen a small amount of Burnt Umber oil paint was put on a flat palette (and index card). Paint was picked up using a brush moist with Mineral Spirits. In effect, I mixed the glaze right in the brush. The brush was then dragged across the wood areas. A clean, damp brush (with Mineral Spirits) was used to gently remove the oil paint from wear areas.

The next step was weathering. Like most any task, there is more than one approach that can be used. Here, we will use oil paints and pigment powders. In a later segment ("Les Poilus") we will use acrylics and pigments to get a very similar effect. I like oils for this process for a few reasons. One is the long working time so I'm not in a hurry to apply and blend the colors. The long working time also lets me apply the pigments before the oils dry, effectively using the oil paint as a "fixer" to hold the pigments in place. Finally, the oils will not affect or attack the underlying acrylic paints. The following process was used. The oil colors used are shown at right, and consist of Burnt Umber, Dark Mud, Dust, and Yellow Ochre.















120. The oil paint was put on an Index card. I used Burnt Umber, a mix of Dark Mud and Dust, Dust, and Yellow Ochre. Some pigment powders in similar color were also placed on the card. **121.** Like was done for the woodgrain, oil paint was picked up using an old brush (that still had something of a point) moistened with Mineral Spirits. **122.** Layers of oil color, from thin to thick as desired, were painted onto appropriate areas of the figure. First, darker colors were applied in shadow areas and lighter colors in highlight areas. But as mud lightens as it dries, some fresher, darker colors were also added on top. **123.** Oil paint remains workable for quite some time, the advantage of that medium. The colors were gently blended by lightly stippling them with an old flat brush. Any excess or unwanted oils can be easily removed with a damp brush. More can also be added as needed.

124. While the oils were still wet, the pigments were applied. Pigments are somewhat adhesive, but they are very fragile. The oils will help fix them in place. But please note, once applied, do NOT touch them—you can rub them off, leave fingerprints, or both. Also, while you can provide a protective clearcoat over the pigments (Clear Matte for example), I do not recommend it as it can alter the color or lessen the effect. If you decide to do so, the clearcoat must be sprayed—brush painting it on could destroy, damage, or remove the pigments. To put the pigments in place, they were picked up with an old brush. **125.** They were then dabbed in place in the desired spots. You can also hold the brush over the spot and lightly tap it with a finger to sprinkle the pigments in place. **126.** If the oils have dried, or you are applying pigments to spot where there are no underlying oils, touch a brush loaded with Mineral Spirits to the desired area and let the fluid wick onto the model. Then apply the pigments. **127**. Here we see the final result after all the color cured.









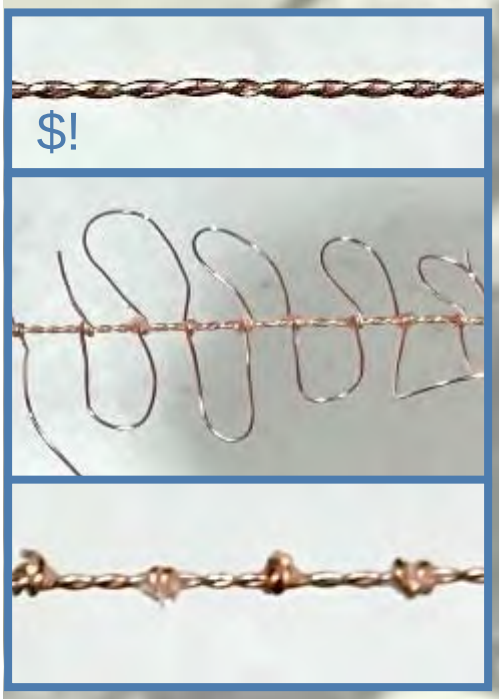
128. While the finish is fragile as explained above, this ultra close-up of the greatcoat skirt shows why I like this method so much. While the oils provide a base and some color, the pigments really make the effect come to life. They also provide texture. Note how realistic the dried mud effect looks here. It appears so realistic because of the wide range of hues, saturations, and values and also because texture ranges from nearly smooth to quite rough and thick-looking indeed. The same method can be applied as a final step to the groundwork, and it will tie the figure perfectly to the groundwork. This makes the figure look like it belongs, and was not teleported in (or dropped from a helicopter) from another location. Many modelers weather their figures by superficial dry-brushing or with washes. If done properly, these methods can work (especially for lightly-weathered items), but it will not realistic as a process such as this.

At this point, the gun and head were glued permanently in place as seen in photo #127. As stated at the start of this segment, the fragile bipod will not be placed and painted under the figure is attached to the finished base.

FRENCH CHAUCHAT GUNNER!













Let's turn our attention to groundwork. Actually, I created this prior to painting the figure. This is my standard practice—that way I can use the figure to create the ground without risk of damage. **1.** Some bits of stick were selected for a stump and debris. The ends were torn ragged and various holes and tears (from bullets and shrapnel were drilled, punched, and gouged into the wood. **2.** A broken wooden board was made from a length of styrene strip. One end was cut using a hobby knife to represent a broken edge. To create grain, a coarse sanding disk (for a Dremel) was dragged—NOT rolled—over the surface repeatedly. Deeper cracks and splits were carved in using a scribing tool. **3.** A couple lengths of barbed wire were made using a method not unlike the real thing. First, two strands of wire were twisted together. Next, another length of wire was wrapped around and around, looping from one barb to the next. Superglue ensured these stayed in place. Once cured, the loops were cut away, leaving only the barbs. Yes, the process can be hard on fingers! **4.** Some old casting of a German soldier's leg, helmet, and rifle were pulled from the scrap box. These were actually failed castings from my "Storm of Steel" project which will be seen later. While not good enough for my needs there, they were fine here. **5.** As the front left corner of the base sloped down, I built up the back right corner to match. A frame was made from a couple pieces of sheet plastic and a bit of XPS foam (again, explained later) was used as filler. **6.** This was glued in place, and the stump was also pinned to the base. The location for the figure was determined, and holes for the mounting pins were drilled down into the base. He was placed toward the rear so that his fragile gun would not hang over the front of the base too inviting breakage.









7. My normal groundwork mixture is Celluclay (a kind of instant paper mache). I pre-color this by mixing in acrylic paints of appropriate colors. I also add a dollop of white glue to ensure adhesion. Then water is added until the mixture is the thickness desired—basically a clay-like material. Here we see all the elements in a small bowl prior to mixing. In this instance, I also added some forest litter made from ground-up leaves, some stuff from my wife's spice rack, and a few bits of small roots. Some fine sand and gravel were also mixed in. **8.** The figure is removed from the base and two pins (large paperclip wire) are put in place in the mounting holes to prevent them from being filled. The Celluclay mixture was added with a putty spoon. As I was making torn, disturbed ground, I did not smooth it out, but rather left it rough and clumpy. **9.** The figure was then temporarily put in place and slightly pressed down into the mix to create some footprints. This gives the figure a sense of weight and ensures he is firmly fixed to ground without parts of his feet hovering in the hair.



10. While the figure was in place, various bits of sand , gravel, and small rocks were sprinkled on and lightly pressed into the ground. I also added some torn pieces of uniform or blanket as well as the German's leg, helmet, and rifle. The cloth scraps were made of rolled-out Magic Sculpt epoxy putty. After rolling it out, it was cut to shape, torn with a hobby knife, wadded up a bit, and attached to the ground with superglue. Doing this with the figure in place ensures non of this material gets into the footprints—interfering with later fit. If you wished to place grass (such as static grass, field grass, or pre-made grass tufts as seen examples below) this would be the time. Once satisfied, I removed the figure (replacing the pins to ensure the holes did not get filled with debris). The groundwork was allowed to thoroughly cure and was then painted. We will take a deep dive into painting this type of ground in our later "Storm of Steel" diorama. Here, we will look at the basic outlines only.

Below are some of the useful materials for making groundwork (not all of which were used here).













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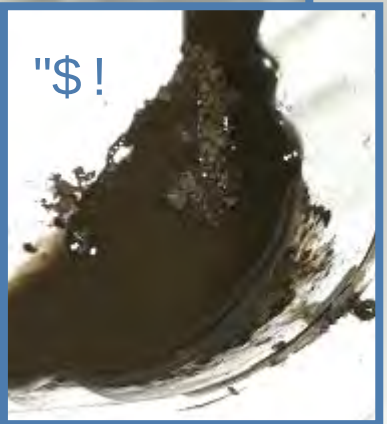

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11. The first step in painting the groundwork was to finish all the bits of debris and gear scattered around the scene. While all this was painted, after the application of mud, most everything will be the color of the ground. **12.** Dried mud and dirt were added using the same materials, colors, and methods that were applied to the figure. This consistency is critical to realism and believability by making the figure and the ground look as if they belong together. **13"14.** To make wetter mud, I mixed very dark pigments with Future Floor polish in my well palette to make a thick slurry. Future is a high-gloss acrylic, so it works well with my normal paints. This mix was painted in muddy and low areas. The pigments serve to dull it, leaving only a slight sheen. In areas where I wanted a wet look (like the front left corner), I added a layer of straight Future after the mud mix had thoroughly dried. Next page: the figure was glued to the base using its mounting pins, the bipod was painted and attached, and the piece was finished.









OFFICER, 11TH DRAGOONS 1915!

Assembly, Painting, Groundwork!

In this segment, we will look at Model Cellar's 75mm Dragoon Officer. The kit is typical Model Cellar. The sculpting is quite good, with detail, pose, and anatomy being spot on. Casting is also very good, with clean up of the parts being quite simple with mainly just a few mold!part lines to scrape/sand away. There are a couple pin holes where some air bubbles were in the resin, but these are minor and quite easily filled. Engineering and fit are perfect, with no additional work required to get parts to fit properly and no filler putty needed. There are a couple parts the modeler needs to fashion: part of the binocular case strap, part of the pistol lanyard, and the cigarette. Parts to make these, along with instructions, are included. "

There are twelve resin parts in the kit: the torso; coat skirts with legs; 2 x boots with spurs; 2 x arms; head with helmet; helmet spike; turned up coat collar; pistol holster; map case; binocular case. Also included is a length of wire with which to fashion the length of pistol lanyard from under his arm to the butt of his pistol; a length of styrene strip to connect the binocular case to the strap molded onto his chest; and a length of styrene rod from which to cut the cigarette."

The piece did not come with any groundwork. Rather than just place him on a piece of bare ground, I chose to make a more complex and visually interesting scene. I have always liked Mr. Alex DeLeon's large!scale motorcycle dioramas. My favorite has always been the 120mm "Let's Make a Deal" scene set in a village during German Pre!WW1 military maneuvers. This appears in an old (28!30 years ago) article in the now defunct "Military Modeling" Magazine. We'll see this piece on page 65. "

In this first segment, we will review at my basic methods for painting miniature figures. For the most part, this was done like our Chauchat Gunner, but there are few new tasks and others—like weathering—were done differently. Different colors were also used. We'll also take a deep dive into groundwork. "







4. Here the cigarette has been cut to size, and the length of styrene strip provided for the binocular case strap has been glued to the binocular case. Most of the strap is molded in place, it is only the small bit from the buckle to the case that stands proud of the torso that must be fashioned. Note that like the cigarette it was glued to the case (using superglue) before being cut to length. **5.** Once cured, the strip was cut to the proper length and the top end glued in place joining the molded!on strap."
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With assembly complete, I turned my attention to the groundwork. We will cover this later. Then the figure was given a zenithal prime as seen for our Chauchat gunner and painting began. Unlike our gunner, I painted flesh first. Why? I felt like it... The method was the same. Let's review. "











6. I started with the eyes. The whites were painted Chamomile. The iris area and upper lid were Black. The lower lid was a mix of Chocolate Bar and Brown Rose. The iris was painted French Greyish Blue, leaving an outline of Black. A highlight on the lower portion added Granite Grey. The pupil was Black, and a small catchlight of white was added. Finally, the eyes were coated with Clear Satin."
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7. A layer of Dark Flesh formed the base coat, leaving a thin outline of the upper and lower lids. Highlights were gradually built!up using semi! transparent glazes. First, Medium Flesh was added to the Dark Flesh. Next was Medium Flesh followed by a glaze that added Fleshtone. Fleshtone was next. Antique white was then added followed by a final highlight of Antique White. Each glaze covered smaller and smaller areas. "

8. Shades were even thinner glazes. First, Burnt Red was added to the Base. Then Black Red was added. Black was added for the third shadow, and the final shade was straight black. Note that a couple stray dark brush marks were accidentally added. These were painted over later. "
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9. Very thin glazes—really just filters—were next. I started with Dark Flesh applied overall. This helped visually blend all the shades and lights and softened transitions. Some Dusty Purple was added under the eyes. The hollows of the cheeks saw some Bloodfest Crimson put in place. A 5 o! clock shadow was lightly glazed onto appropriate areas using a mix of Pavement and Dark Sea Blue. "















10"11. Details were last. Fingernails were based in the mid!shade color and then painted (leaving a dark outline) using Flat Flesh. The bottom edge of the scar was already in highlight. The scar on the cheek was painted using a mix of Brown Rose and Bloodfest Crimson. Lips were painted in a mix of Dark Flesh and Burgundy Rose highlighted first by adding Rose Mist and next with Rose Mist. His mostly shaved head was glazed with the 5 o'clock shadow mix, building!up to the desired opacity. Eyebrows used the same color"





12. The glossy black leather helmet was based in Black. Four levels of highlight each added more and more Granite Grey. To depict gloss, these lights were strongest—pure Granite Grey—at reflection points. Finally, a glaze of Clear Satin was added to reflection and mid!tone areas. The cockades (behind the chin strap attachment points—black/white/black on the left and red/white/black on the right) ! were next. True Red provided the red, Antique White was the white, and a mix of Deep Lilac and Black depicted the black areas. Metal fittings were painted Antique Bronze highlighted first with Brass and finally with Gold. While it looked good at this point, a thin wash of Sepia Ink provided shading and toned!down some of the shine. "





13. That finished the helmet. Here we see the finished head. Note that while the methods and results were the same as used on our earlier Frenchman, some of the colors were different. This figure has a large scar on his left cheek—a nice touch that adds a good bit of character. "

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With the head complete, I turned attention toward the uniform and details. For the most part, these were painted as seen previously, only using different appropriate colors. There were some additional details in the form of insignia and detail. The figure is also not nearly as weathered and worn."





14. Painting from inside to outside, the field grey trousers and jacket visible under the coat were next. These used my normal process seen earlier. I used the paint set shown—"Feldgrau Uniforms" from the "War Front" line by Scale 75. It includes the four colors shown.. The base of the jacket was Field Grey #1 and the trousers Field Grey #2 (just for a small bit of variation). Each of these were given three levels of highlight created by adding more and more "Camo Highlights" (a color very similar to flesh). The first two shadows added more and more Black to the base, and the final shadow was Black. Do not forget there is some field grey visible at the collar and inside the right jacket cuff, too. Piping , where visible, was painted Bright Red. "











15. The base color of the coat was built!up using two layers of Dark Blue Grey mixed with Elephant Grey and a small amount of Field Grey #2. **16.** Highlights were gradually built! up of thin, semi!transparent glazes applied one over the other, with each covering smaller and smaller areas. The glazes were applied thinly and blended and feathered into each other to give smooth transitions. The first three highlights added more and more Elephant Grey. The fourth highlight was Elephant Grey. The next highlight, added only on the upper portions, was Elephant Grey plus Country Grey. Some small, brighter highlights of Country Grey were added. Finally, using a mix of Country Grey and Antique White, the edges of the garment and the edges of the various seams were picked!out. **17.** Shades were applied in the same way. The first two shades added progressively more Pavement to the base color. The third shade was Pavement, and the fourth shade added Black to this. Finally, deepest shadows were Black. Black was also used to outline the various belts, seams, buttons, etc. Note how the combination of edging and outlining really serves to make the details "pop". "





18. I started painting the officer shoulder straps by giving them a wash of Black. **19.** Leaving the Black in recessed areas, the cords were picked!out using a mix of Spectrum Blue and Antique White. Piping was Red. The blue portions of the collar were painted dark to light as follows: Black, Dark Sea Blue, French Greyish Blue. An edge highlight along the top was a mix of French Greyish Blue and Spectrum Blue. The red portion of the collar was based with Fire Red. The first highlight added Red and the next highlight was Red. Edging around the button flap was Red plus Medium Flesh. Shadows were Chocolate Bar. Outlining was done using Black. Again, note how the combination of edging and outlining works. "



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Most of the equipment our man carries, as well as his boots, are leather. His leather is fairly clean and well maintained. Unlike our Chauchat Gunner, where we created worn leather, here we created leather using the method seen at left. Although the method is very similar, the result is leather that is not nearly as worn. I start with a base color in the midrange (A). Color is then gradually built!up using semi!transparent glazes and leaving lighter colors visible in wear areas until I reach the darkness I want (B! C). Finally, using a wear color, edge highlighting is done (D). Very little cracking and extreme light edging were applied. "







I used three different colors for the leather while following this practice. **20.** As the wear is minimal, I started with a slightly darker base color. **21.** Then I gradually build up darker colors until I got to the darkest color of the leather, leaving the lighter colors to show through in highlight and wear areas. **22.** Then working from the starting color up to the lightest color, I add wear and edging. Outlining was done using Black. "

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As I often do, I slightly varied the colors of the different leather items. All the colors used for the base (20), dark (21), and wear (22) are shown on the next page. The chart at left lists which colors were used for each items and the order in which they were applied. "

ITEM!	20: BASE ! COLOR!	21: DARK BUILD– UP ! COLORS (in order)!	22:! WEAR COLORS! (in order)!
Boots"	Dark Brown"	Dark Fleshtone, Burnt Umber" Walnut, Walnut + Black"	Autumn Brown + Territorial Beige," Territorial Beige"
Stirrup Strap"	Autumn Brown"	Burnt Umber"	Beasty Brown, Territorial Beige," Tan"
Binocular Case"	Dark Brown"	Burnt Umber, Armor Brown"	Territorial Beige + Tan, Tan"
Binocular Case Strap"	Autumn Brown"	Dark Fleshtone"	Tan"
Map Case"	Autumn Brown"	Dark Fleshtone, Burnt Umber, " German Red Brown"	Autumn Brown + Territorial Beige," Territorial Beige, Tan"
Map Case Strap"	Dark Brown"	German Red Brown"	Territorial Beige, Tan"
Belt & Holster"	Autumn Brown"	Dark Fleshtone + Chocolate " Bar, Chocolate Bar"	Beasy Brown, Territorial Beige, " Tan"















23. The boot soles were painted using a mix of Burnt Umber and Pavement. Edging was created by adding Tan, and outlining was done with Black. **24.** A bit of dampness was added around the soles using Future Floor Polish with a tiny amount of Burnt Umber mixed in. **24/27.** Buttons, buckles, and snaps were painted using the same colors as the metals on the helmet. The spurs were painted Lead with a Silver highlight. "





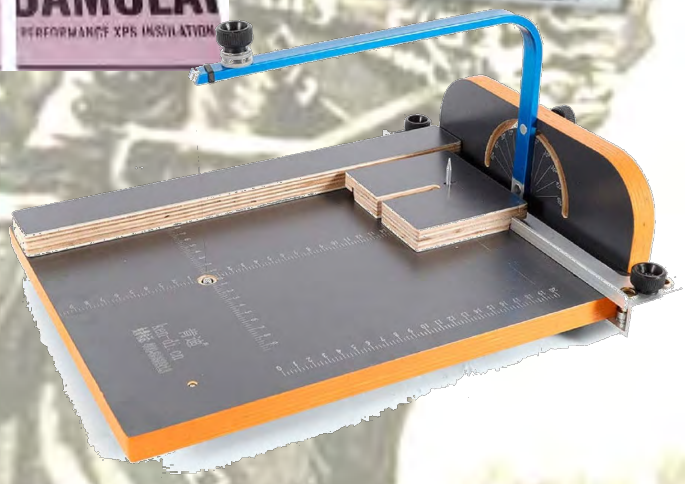


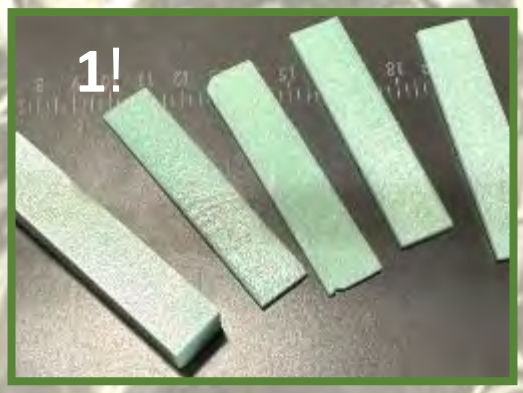
25. The map was painted using appropriate colors. **26.** In order to give the effect that the map was covered by a layer of clear material, some white reflections were added where the material would have high points or waves. It was then given a coat of Clear Satin. **27.** The last item was the pistol lanyard. This was given a base coat of Khaki Base B. The first highlight added Khaki Light A (both of these colors are from the Andrea Khaki paint set). Highest points were picked out with Khaki Light A. Outlining was Black. This photo also gives a good look at the details of the torso and leather. With that, this figure was complete. "



While we are covering the groundwork at the end of this segment, it was actually created and painted after the figure had been assembled, but prior to its painting. I first tackled the fountain. This can be made of many materials, but my favorite to work with is XPS foam (insulation foam). This is a very lightweight and versatile material useful for a great number of groundwork functions. Different colors are simply different makers. We will see it again in this work. This foam can be easily cut and shaped with a hot wire table or tool. I use the KD.6 Hot!Wire Table to cut the foam. Using provided guides as needed, I cut blocks of needed length and width. "







1. Here we see the central pillar core and the four sides. **2.** A cube was cut for the base of the pillar. This was marked for a bevel around the top surface. **3.** Using the angle guide on my hot wire table, the bevel was cut. **4.** The four sides of the pillar were glued to the central core using PVA glue (I prefer Aleen's Tacky Glue). Once dry, the grooves were created by quickly touching the pillar to the wire. In this photo, the wire is visible as the black line. This melted identically square grooves. "













5. Further pieces of foam were cut and shaped in the same fashion. Here we see the base, the pedestal (also seen in photo #2 and 3), the sides of the basin, and the pieces which will form the cap. **6.** Here we see the parts used to form the cap of the pillar after they were glued together. Complex parts such as this do not have to be carved in one piece. **7.** Here we see the various assemblies of the fountain test!fitted together without glue. At this point, I decided it was a bit to large and too tall. Fixing this was easy. First, I simply (using the hot wire table) sliced off the bottom segment of the pillar. The parts for the bowl were sliced slightly thinner and shortened a tiny bit from front to back. This also mandated a slight adjustment to the base. But after a bit of fiddling, I was happy with the design. "







8. Stone texture was created by pressing a ball of crumbled aluminum foil over all the parts. **9.** Next, all the foam parts were glued together. **10.** I generally do not like anything to be parallel to base edges. The fountain was placed at a slight angle in the back corner and the base of the fountain was cut flush with the base edges. **11.** Details were last. Magic Sculpt epoxy putty formed the ball on top. The grating was styrene strip. The base of the spout is an old 1/35 scale anti! tank mine while the spout itself is brass tubing. The spikes on top are left over pins to make ribbon racks from my military days… I knew they'd be useful at some point. "



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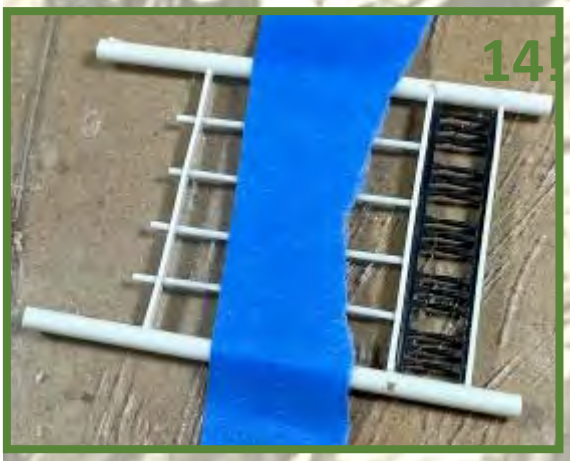
Attention was next turned to the wrought iron fence pieces. **12.** The decorative portion was made from a model railroad HO scale railing. It was cut to the desired length and every fourth spindle was removed. We will see why shortly. **13.** Most other fence pieces are styrene rod, bar, strip, or tube of the appropriate size. Larger tubing formed the posts, while small rod formed the slats. Not shown here, small pieces of bar formed the slats in the decorative portion. The strip formed the horizontal pieces. All parts were measured and cut before gluing. The strips were drilled for the slats. "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14. The parts were glued (using plastic model cement) on a flat surface and held with tape until cured. **15.** The final step involved gluing the metal pins (with superglue) into the posts, and gluing pins (which had been cut shorter) to the top of each slat. "


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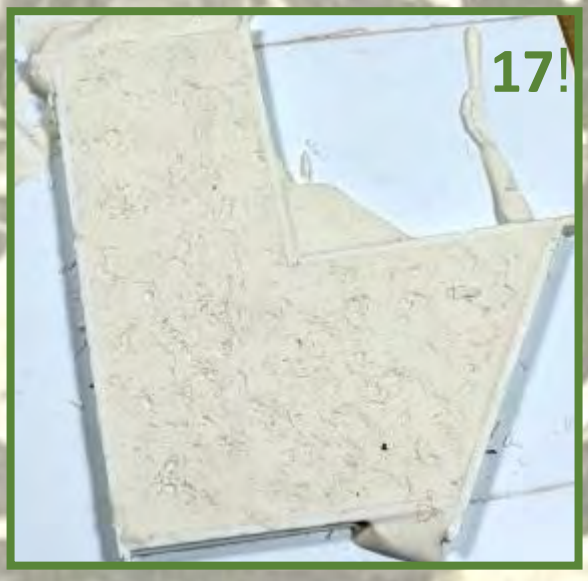
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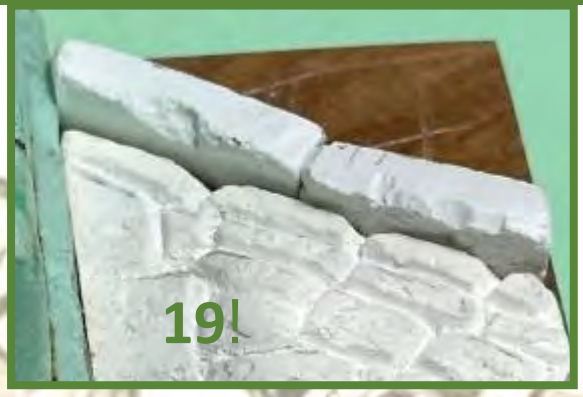
16. A form for the street surface was built of styrene strip (the same width as the desired road surface) glued to sheet plastic. **17.** Plaster was poured into the form, and, once almost cured but still soft, texture was pressed into it using the same crumpled foil ball used earlier. Once fully cured, it was removed from the form. **18.** Additional details were then carved using the scriber shown. "





18. Using the tool shown, individual stones were carved into the plaster. 19. The fountain and road were glued to the base and curbing stones were cut from old pieces of plaster left over from a previous project were glued into place. Note that although I used plaster for the road surface, I could just as well have used the XPS foam or even epoxy putty. "











20. A final test!fit shows everything works as intended. 21. Preparing the brush was the next step, starting with the autumn leaves. I took a couple sheets of bond paper and painted them using my normal acrylic paints in various fall colors. After they had dried completely, I punched as many leaves as I could with the shown punch. 22. For the shrubs themselves, I sorted through my box of old, dried tree root and selected several appropriate sized and shaped bits. A sample is seen here. 23. To attach the leaves, I soaked the roots with hairspray from a spay can (don't use any with glitter or coloring), and then sprinkled on leaves. Once dry, I repeated the process until I had built!up the leaves to the desired amount. "



24. With the various elements of the groundwork mostly constructed, it was time to start painting. I started with the street and curbing stones. These were painted in appropriate stone colors and allowed to cure. While the variation of color between stones looks quite stark at this point, subsequent steps will served to tone this down. "

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25. To add the grit between the stones, I used fine sifted sand (I collected a bunch years ago from the gutter). This was sprinkled in between all the stones and the excess gently brushed away. To lock this in place, I used the "Gravel and Sand" Fixer" from AK shown. I loaded a brush with the product and touched it to the base, letting the liquid wick into gaps between stones. "









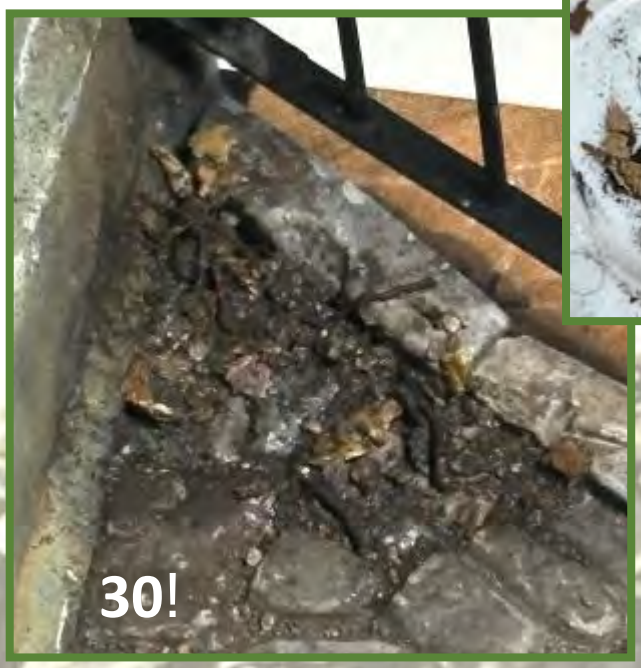






26. To help cut down the starkness of the street stones and dirty up the street a bit, I used an enamel "Dark Brown Wash" from AK. Burnt Umber oil paint thinned with mineral spirits could also be used. But this product is ready!made, and I had it available. The stones of the fountain were then painted using a few very similar, but slightly different, colors of dark grey. **27.** Some additional variation was created by lightly dry!brushing the stones with lighter greys. More variation, as well as shading and highlighted, were done using glazes of lighter colors on upper surfaces and darker colors on lower and other shaded areas. **28.** Like I did with the street, a unifying and dirtying wash was used. But instead of the grimy!looking dark brown, I went with a lighter brown filter. Both the brown wash and filter are enamel projects, so they are thinned (and brushes are cleaned) with Mineral Spirits. The result, once cured is seen. Compare this with the starting point to see the difference the process made. Yes, these stone surfaces could be painted simply by applying a base color followed by a wash and dry! brushing… but that would lack the variation, richness, and realism that the additional work provides. And we're not done yet!"







29. The next step with the stones was to add some edging using various light grey colors. To help reinforce the stone texture, these were not applied in solid lines, but rather randomly as dots and dashes. Outlining was added using Black. "

30. In the back corner where leaves, grime, and gunk would gather, I piled on a mix of ground!up leaves, brown static grasses, fine sand and gravel, and small bits of tree root. To glue these in place, more of the Sand and Gravel Fixer was flowed into the mix. Here we see it after the first layer was applied. Additional layers were built!up as needed. "





At this point, I transitioned to the fence. **31.** The base color was a mix of IJN Deep Dark Green and Cockpit Green Faded. The former color was used to add shadows and the latter color provided highlights. This colors helps impart a tarnished effect. "



32. The fence was rusted using a mix of oil paints and pigment powders. Thinned Dark Rust or Light Rust oils were painted onto the fence in desired rust areas. While this was still wet, light, dark, and/or medium rust pigments were stippled into the wet paint using an old brush. Once dry, the process provided a nice realistic rust effect with good texture and color variation. The result is seen on the next page—similar to the dried mud on our Chauchat Gunner. "



33. To help blend everything together into a unified whole, provide more weathering, and tone down the starkness of the edging, I applied various dot filters of the oil paint colors and mixes shown. These were applied to all elements of the scene. To apply a dot filter, place dots of the desired colors in the desired locations. At this point, the scene looks like it has polka dots or measles. Then, using an old brush damp (not wet) with mineral spirits, carefully and gradually blend and streak the dots. Oil paints are slow drying, so you have a fairly long working time to complete the process. The result at this point is seen here. We will look in detail at the dot filter process in the segment of our MG 08/15 gunner. "





34. I wanted some relatively thick, textured moss on parts of the scene that would often be damp and dark. This was started by painting desired areas with a mix of thinned white glue and a fall!appropriate dark brownish green mix. While this was still wet, Woodland Scenics "Snow" (you could also use micro balloons) was sprinkled on. Once dry, the excess "snow" was gently blown off. This leaves good texture in desired places, but it is largely white at this point.
35. Using **very** thin acrylic paints of the desired colors, a loaded brush was touched to the moss and the color allowed to wick into the snow. Once dry, the result is as seen here. "







36. A very light dry!brushing (the material is quite fragile) of tans and yellows brought out the texture. The end result looks very realistic. This, combined with the color variation of the base colors and dot filters and the weathering washes works to create very realistic textures. "

37. The water in the fountain was next. For the stream coming from the spout, I used stretched sprue. A piece of clear sprue from the scrap box was gently heated over a candle until soft, then stretched. A length was cut and the end was superglued into the brass tubing forming the spout. "

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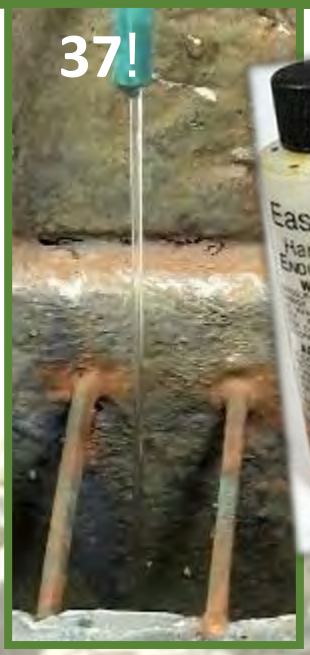
38. The water was created using two! part (resin and hardener) casting resin. Despite the color, it dries clear. Equal portions were mixed in a small cup and a **TINY** bit of Green ink was mixed in to tint it. **39.** To add this to the fountain bowl and prevent spillage, I used a small syringe. It was then set on a level surface and allowed to cure for at least 24 hours. "



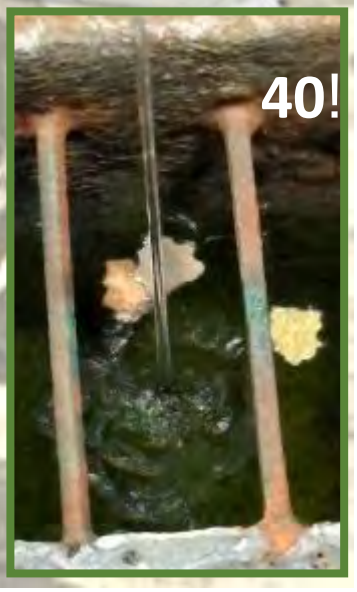












40. Before the mix was thoroughly cured, I dropped a couple of paper leaves into the bowl. Once, dry, I added some ripples and splashes using Wood Scenics "Water Effects". This is essentially a fairly thick clear acrylic paste. It was applied using a small brush where desired. While it is white out of the bottle, it dries clear as seen at right. "

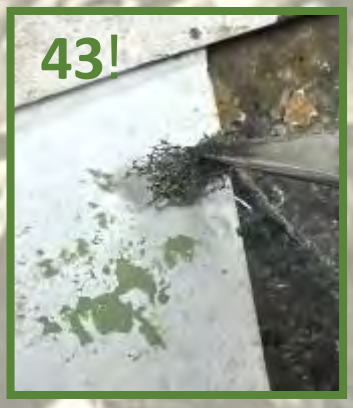
41. Next, I applied two more layers of built!up "stuff" to the back corner of the scene where it would collect (see page 78). Again, the Sand and Gravel Fixer locked this in place. Next, some "Slimy Grime Dark" was added to appropriate areas, followed by an application of Wet Effects between the street stones, along the curb, the build!up in the back and other appropriate areas. Some additional fallen leaves were glued in place. "





The last step for the stones was to apply lichens to shaded damp areas of the fountain. **42.** Some various lichen colors were mixed on the pallet. **43.** Pieces of old packing sponge held with tweezers were dipped into the paint. Excess was blotted away on a piece of paper. **44.** Then the sponge was gently stippled on the stones, depositing small amounts of paint to represent the lichens. "







The only thing remaining is the ground behind the curb and under the brush. **45.** I created my normal groundwork mixture of Celluclay, white glue, acrylic paints, and water. I also added some the same stuff I put in the back corner. This was then thoroughly mixed into a thick past. **46.** This was applied to the back corner of the scene as needed. "











47. While this mixture was still wet, it was coated with a layer of forest litter (mostly leaves) mixed with thinned white glue. This was applied and then the various bits of brush and root were glued into place. **48.** Once added. "

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The final result is seen at right. While it was a good deal of work, the end product looks very realistic. "

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All that remained was to glue the figure in place, and the little scene was complete. "





FORTUNINO MATANIA!

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Fortunino Matania (1881"1963) was an Italian artists and illustrator noted for his portrayals of World War 1. As a child, he helped his father create illustrations for magazines and books. He went on to work for an Italian periodical before moving to England to join the staff of another periodical. When WW1 broke out, he became a war artist employed by "The Sphere". Photography was still young, and actual photos of combat were rare. War artists were therefore vital in depicting events realistically. After the war, he switched to scenes of ancient life for a British woman's magazine. !

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It is clear that Model Cellar's figure is based on this illustration—"The Strongest" by Matania. It is not the first. Years ago, a similar figure was released by Kirin in 120mm. It is still considered a classic even today. At left, we see another little vignette based on Matania's painting. However, it replaces the little boy with a little girl " a stroke of genius in my opinion. Otherwise, it is very true to the source material. The company that was going to produce it never got off the ground. This was going to be one of two initial releases. Only a few test castings of each were made—and they are very high quality, indeed. For whatever reasons, the project fell through, the figures were never released, and no more were sculpted. Only a handful were ever made available. Nominally listed as 1/32nd scale, it is much closer to 1/35th. I do not know the status of the masters or who has them. We can hope that perhaps someday…? But I am overjoyed that I was given a set. This is my rendition—and perhaps my favorite World War 1 piece! !

LES POILUS!

Assembly, Composition, Painting, !
Weathering, Groundwork!



Like the other figures in this volume, these two men, in 75mm resin are from Model Cellar. While they are sold separately, they are designed so their bases fit together. Sold as “WW1 French Poilu” and “WW1 French Officer”, they are standard fare for Model Cellar—well detailed, well engineered, and well cast. Quality and fit of parts is quite good. The trench groundwork is included."

The officer kit contains three pieces of trench—wall with steps, firing step, and floor—while the Poilus contains similar groundwork minus the steps. The officer himself consists of ten pieces: legs, torso, head, helmet, 2 arms, hand with cane, hand with pipe, pistol holster, and binocular case. The soldier is cast in seven pieces: torso with legs and arms, head, helmet, pack, bayonet scabbard, canteen, and gas mask container. “Poilu” means “hairy one”. "

These kits were built mostly straight from the boxes. A bit of personalization in the form of minor changes to the scene were made as we will see. Painting followed the same processes already discussed in our first segment on the Chauchat Gunner. In this instance, the officer’s uniform was painted using the colors provided in AK’s “WWI French Uniforms” set without additional modification (other than Black being deeper shadows). Here, we will look at an alternate method of weathering from what we saw with our Chauchat Gunner. Other than the mud being wetter and caked more heavily, the effect is the same. After all, when we think of the Great War, we often think of mud and dirt. In the earlier example, we used oils and pigments. Here we will use acrylics and pigments along with some commercially available mud products. We will also discuss some aspects of vignette composition. "

FRENCH TRENCHES AND MUD!







Above left is a photo from the making of the 1956 Stanley Kubrick movie "Paths of Glory" starring Kirk Douglas. It gives us a good view of a French trench...at least as they appeared in the movie. This matches the look of the Model Cellar kits well, too. It looks a bit more orderly and neater than most photos of WW1 French trenches I've seen. It is also quite wide—making an attractive artillery target. Weather, mud, long occupation, and artillery combined to make such orderliness fleeting at best. In my opinion, "Paths of Glory" is likely the best WW1 movie ever made (and one of the best war movies ever filmed). Allied trenches were extensive and often hastily improved networks used as staging areas for attacks to retake occupied lands. On the other hand, German trenches were designed as long term defensive systems. As a result, Allied trenches were generally simpler, shallower, and more prone to harsh muddy conditions as seen above right. !

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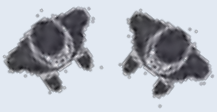
The mud on the Western Front often turned battlefields into thick, flooded swamps that swallowed men, horses, and artillery. The deadly slime made movement difficult and made trench life a miserable, disease filled nightmare. Mud is a common theme in many photos of soldiers on the front. The two men in the photo at left appear to be absolutely plastered with mud. Note the discoloration on the greatcoat, the apparently sodden and earth colored lower legs, and the various spots and speckles from splashes on the upper arms and helmets.

FIGURE INTERACTION IN A VIGNETTE!

Single figures are great. A single figure captures the likeness of an individual, so their focus is usually on detail. Likewise dioramas are awesome, and their focus is on the story they tell. A bust is a portrait with focus placed on character. But a vignette is subtly different. It is (usually) not nearly as large or involved as a diorama. Another difference is that a vignette may, but need not, tell a story. Vignettes also differ from a single figure in that, rather than focusing on capturing the likeness of an individual, it aims to capture a moment in time. At the same time, it will either—like a diorama—tell a story or it will—like a single figure—capture detail, likenesses and character. Often, it will do both. Thus, if we can compare our diorama to a movie and our single figure or bust to a portrait, then our vignette must surely be like a snapshot. Or rather, it appears *to be a snapshot. In the photography world, a snapshot can be defined as "capturing a moment in time with little regard to lighting or composition". This is certainly the feel we normally want our vignette to have. However, attaining this effectively usually requires a great deal of planning and certainly relies heavily on composition.*

Since the main focus of a vignette is usually centered on two or three figures, their interaction is key to successful composition. In fact, my third compositional commandment (see page 21) is "Show Action and Interaction". There are essentially three positions of interaction we can use with two, or even three or more figures as explain below.



Shared Position!

SHARED POSITION: *This looks most natural and should normally be used, especially in non-hostile, non-threatening situations. Both figures are viewed in strong positions as they face toward the viewer, but note that the figure on the right is in the visually strongest position unless he/she is sitting or prone. Why is this strongest? We read from left to right, so our eye stops on the right making that side the visually strongest. The man on the right also faces to the left—against the "grain" of this eye movement, forcing the eye to pause.*



Profile Position!

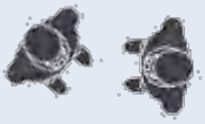
PROFILE POSITION: *In this position, the figures are both viewed in relatively visually weak positions. Still, this position is good to impart a dramatic or tense conversation between the figures—and the closer they are to each other the more dramatic and tense the situation is. It's also a good position for hand-to-hand combat.*



Given Position!

GIVEN POSITION: *This is a good way to throw emphasis on one figure in the conversation. In this case, the figure on the right is facing us, while that on the left is looking away. This is emphasized if the weak figure is at a lower level, is sitting, or is prone. It is also good positioning to emphasize a superior/subordinate relationship where the senior person directly faces the junior who is positioned at an angle. Note this the positioning of our figures in this vignette. The officer is square to the soldier while the soldier stands at an angle.*

Given position as used in this vignette!



One of my pet peeves is the "random pointing figure" often seen as a single figure or in a vignette. A pointing figure can direct our viewer's eye or indicate the location of an off-scene element (such as enemy forces) whose presence is otherwise only implied – but if the figure is pointing at nothing or for no apparent reason it is simply a distraction. Such a pointing figure says to me, "Don't look at me… Look at the figure (or model) over there!" If the figure is pointing off scene, I try to have them point in the general direction of the viewer when practical. This creates an interaction with the viewer, including them in the scene.





1. This shows the parts for the officer. The soldier was similar except that the legs and arms were part of the main casting. Fit is flawless so no putty was needed which allowed most equipment parts, as well as heads, to be left separate for painting. "Detail on the parts is very good. The soldier's canteen was glued in place as the strap must be added ! something I found easier with the part in place. " Separate helmets and heads make face painting easier, too. "**2.** Here we see the parts and subassemblies ready for painting. "







3. Here we see the kit!supplied groundwork. **4.** While fine, I think the figures can be brought closer together for a more attractive scene. This was accomplished by sawing off an inch of the soldier's base on the side opposite of where it joints the officer's base. **5.** Some details were added to the ground. To fill the gap between the sandbags on top, I added a sentry shield made from sheet plastic. The wooden revetment on the far left segment was ground away and replaced by corrugated metal for some variation. **6.** I added a gas alarm made from a 75mm shell casing. The shell was made from a piece of brass tubing with a sheet plastic base. A length of chain and a rope were added. The support was made from plastic bar stock with wood grain added with a hobby knife and a sanding disk as we have already seen. "





7. The floor of the trench was ground away to about half thickness. Epoxy putty "ground" was added on top of this base, and duckboards pressed into the soft putty. I did it this way rather than just building on top of the kit bases, so that the figures' heads would not extend about the sandbags. "

"

Painting of the figures followed by normal process and used mostly the same colors and methods seen for the earlier Frenchman. Here, we will look primarily at weathering, but we will also provide a couple examples of texturing. "





8. Here we see the backpack in progress, specifically The canvas on the cover. Note the dotted highlights to create the appearance of an uneven, rough canvas texture. By using thick paint the texture is also slightly three dimensional, meaning it still shows up some under even deep shadows. **9.** The gas mask case used the same chipping method seen earlier, but added a layer or bare metal chips in addition to darker rusty chips and light scratches. "

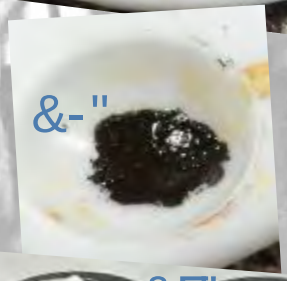
















10. To create the caked mud, first, acrylic glazes were applied using light, medium and dark earth colors (Trail Tan, Territorial Beige, Burnt Umber). This represents dried, ground!in dirt. They were applied light to dark as old, dry mud is lighter than damp mud. **11.** Next, similar colors of pigment powders were placed. These represent heavier deposits of dried, flaking mud These were picked!up using a brush damp with isopropyl alcohol so they would stick and clump. Note that the alcohol will attack acrylic paints, so prior to applying the powders, the figure was sprayed with a "barrier" layer of clear flat lacquer. Once dry, the pigments were gently blended using a make!up brush. **12.** Then, using very dark pigments mixed with Future Floor Polish for a damp look (just like we did with the ground on the Chauchat Gunner), fresh mud build!up was put in place. **13.** Finally, for some color and texture variation, Vallejo "Thick Mud" (a couple different colors) was sporadically placed over the fresh mud. A similar technique, with the same colors and materials, was used to create the mud and dirt in the trench scene. "







Above we see the final groundwork before the permanent attachment of the figures. It was painted and weathered using the same colors and methods we will see later in the "Storm of Steel" diorama. Basically, the wood was painted in appropriate colors, the rust was applied as seen in our "11th Dragoon Officer", and the mud was created as seen on the facing page. Other weathering was done using pigment powders put in place and then fixed using an appropriate fixer. The base is an attractive piece made by John Jeffries (Birtchtree Enterprises). Note that the colors of my weathered wood and rusty metal nearly match the colors that are present in the base. And to me, the shapes in the wood seem to mimic the shapes in the sandbags. This is a great example of selecting a base that is complimentary to the finished work. "

ALMOST PORTABLE: MG 08/15!

Assembly, Painting!



This figure, by Model Cellar in 1/9th scale, is a perfect example of a piece that works perfectly as a large!scale bust. All the focus—all the story—is entirely in the gun and the character!filled face. The size really gives these features an opportunity to shine, and shows off the gun in great detail. In this case, a lower torso and legs would add absolutely nothing (except a lot more space taken up in the display cabinet). In fact, we could argue that they would be a distraction."

As Model Cellar has done with many pieces recently, this was digitally sculpted and originally 3D printed before being molded in rubber and cast in resin parts like a conventional kit. It includes one 3D printed part (the magazine bracket). "

The kit contains 16 resin pieces—once of which is 3D printed as mentioned. The man consists of torso; head, 2 arms; and two hands (one of which is molded onto the gun butt). The gun consists of the aforementioned piece; receiver; barrel with cooling jacket; flash hider/muzzle; sling; cocking handle; ammo feed; magazine bracket; rain flap; and the water jacket hose connector. It is a much more complex kit than the figure itself. Also included is a resin pedestal which I did not use. "

The kit is perfectly cast, and parts fit together perfectly. Included is a diagram of the gun to eliminate any confusion about where its profusion of parts go. "

Light in Name Only: The MG 08/15!

The MG 08/15 was Germany's main light machinegun of WW1. Developed as a response to the British Lewis Gun, it was adapted from the standard issue machinegun – the MG 08. The receiver and water jacket were somewhat lightened, a stock and pistol grip added, and a rigid bipod replaced the tripod. The gun retained the working parts of its larger brother. A magazine was developed that could feed the gun with 100 round belts. At 49 pounds with water and ammunition, the gun was "light" in name only. However, the decision to base the light gun on the standard model aided production. Beginning in late 1916, over 130,000 were produced by the end of water, compared to 72,000 of the larger MG 08, making it Germany's most produced machinegun.!

While effective in combat, the weapon was an unhappy compromise. It was cumbersome to use in an assault, and it was difficult to shoot accurately. Still, unlike its larger brother, it could be taken forward by assaulting troops. The sling allowed it be fired on the move, while in the defense it could be fired from the bipod. It was crewed by two men – a gunner and ammunition bearer. !

Most of the guns featured a blued steel water jacket to match the receiver. However, some water jackets were painted in dark green, field grey, or apple green. This was usually done in the field. Some sources say that some jackets were so painted at the factory, but I found no confirmation in my research. Later in the war, after a July 1918 direction from the German High Command, many of the jackets were painted in a disruptive camouflage pattern (similar to that often seen on Helmets). !

"



Two German soldiers carry MG 08/15s. Model Cellar's figure is clearly based on the man on the left. It is a very good likeness. By the collar lace, he is an NCO, but his cap lacks the visor that many NCOs wore. The figure presents something of a dilemma. He appears to wear the transitional tunic introduced in late 1914/15. It dispensed with the Swedish!style cuffs of the earlier 1910 tunic, replacing them with simple turned back cuffs. It also featured other simplifications. However, it did retain the shoulder straps. But these men seem to not wear shoulder straps. Perhaps they have been removed to avoid indicating rank or unit to the enemy? I could find no other photos of soldiers without shoulder straps. He also is clearly not wearing the fatigue (drillich) uniform as the buttons, collar, and pockets differ. Could the photo be taken after September, 1919? That is when the German Army removed shoulder straps from uniforms. What is less clear is piping. The model 1915 uniform worn by the other man should be without. The tunic worn by our man has, in theory, red piping on the collar and front opening. In practice, this was sometimes removed or even omitted from uniforms made late in the war. As the war progressed, such variations in uniform were not uncommon. Perhaps the same can be said for the shoulder straps. "



Left: Here we see the MG 08/15 (on the ground) next to the larger and heavier standard MG 08. To save weight, the water cooling jacket was reduced from a diameter of 4.29 inches on the larger gun to only 3.5 inches on the "light" weapon. Note also that the upper rear and lower front of the receiver were "stepped" on the light version to reduce both size and weight, although all the working bits remained the same. "





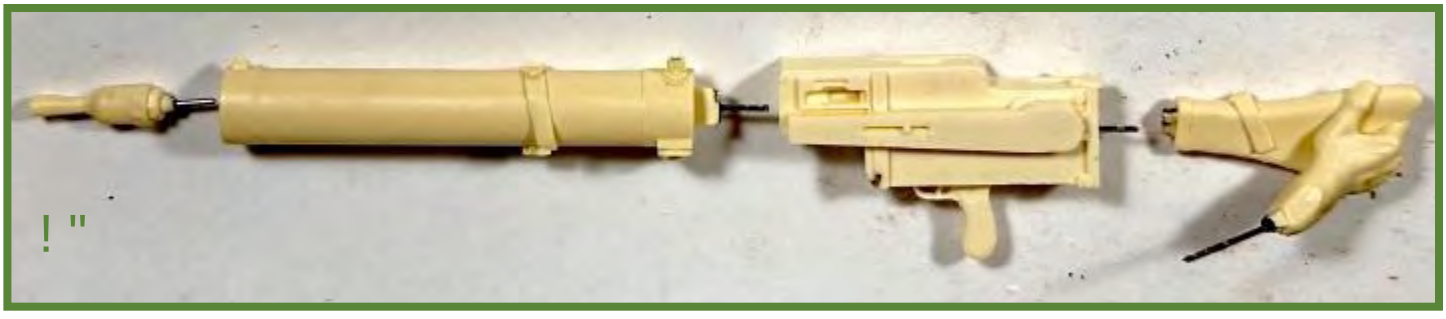


1. Here we see the parts and pieces of the figure itself. **2.** Here are the various parts of the machine gun (minus the stock which is molded onto the figure's right hand and is seen in photo #1). **3.** Also included in the kit is this stand which I did not use. There is nothing wrong with it, but to my eye it makes the figure sit too high above the base. **4.** Kudos to Model Cellar! I bought a pre!production bust at the 2025 MFCA Show. The receiver of the gun was mis!cast with a notable step in the casting. This was actually identified by Paul of Model Cellar when I made the purchase. **5.** He promptly corrected the issue and sent me a new, proper, casting. So far as I know, production castings were all good. "

6. As always, I pin large and load bearing parts for strength. Here we see the pins (paperclip wire) used to reinforce the joints of the major parts of the gun. Note also the pin in the right wrist to attach the whole assembly to the figure. "









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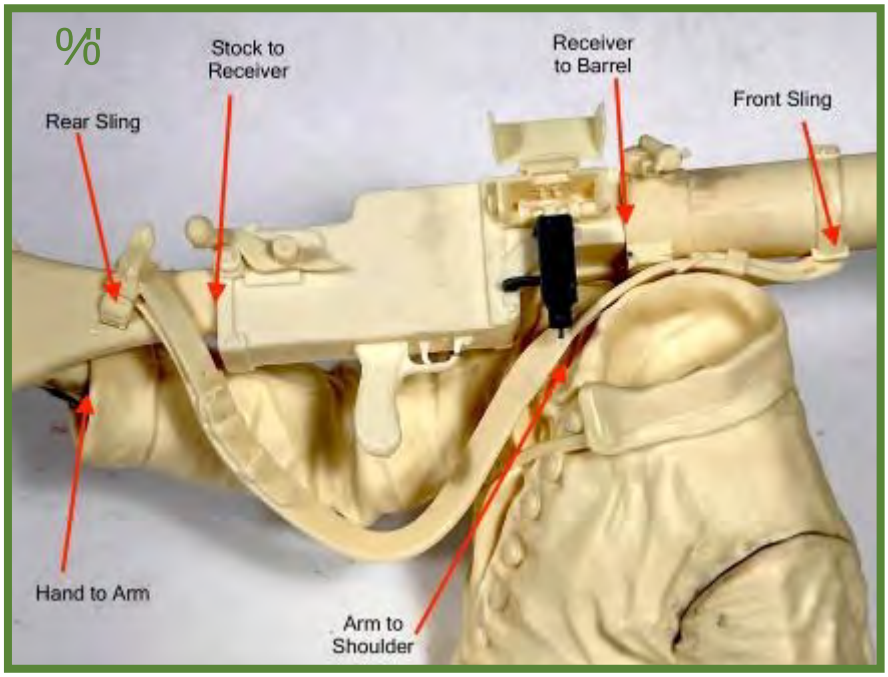
7. The arms and head were pinned to the torso, and the hands were pinned to the arm. Pins were paperclip wire glued into mating holes drilled into both mating parts. 8. To attach the parts, I used two!part epoxy glue (I like JB Kwik as it sets in only a few minutes). For the arms, a tiny bit of excess glue was squeezed out into the joint and wiped away with a damp finger to ensure the joint was smooth with no gaps. There wouldn't have been gaps anyhow—fit of parts is perfect. "

9. Just because fit is perfect doesn't mean you do not have to be careful… you absolutely do. In this photo showing the parts being fitted, note the number of joints (six) that have to be assembled correctly to ensure everything fits well together. I actually owe Model Cellar an apology… although they don't know it. While I expected quality, I also expected assembly and alignment to be a pain in the keester. It was no such thing. All the various small gun parts (the cocking handle, ammunition feed, magazine bracket, rain flap, and hose connection) were attached using superglue. The kit includes a diagram of how all these parts fit. Take care with the rain flap that sticks up above the receiver. It is a very thin part and has a small attachment point. It would be easy to break off, break, and/or lose this piece. "





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10. The figure was painted in sub!assemblies as shown: torso and arms, head, right hand and gun, left hand. When painting in sub!assemblies take care to make sure your highlighting and shading are consistent (same intensity, same direction, etc.). "



ALMOST PORTABLE: MG 08/15!

11. Here we see the various assemblies temporarily fitted together (just a friction fit by their mounting pins). Held in my hand we can see just how large a 1/9th scale bust is. The gun itself is larger than most of the figures featured in this work. I selected this base from Birchtree Enterprises (Mr. John Jeffries of Long Island, NY). Rather than the kit!supplied stand, I used a stainless steel rod. It extends about an inch up into the figure and about an inch and a half down into the base. "

"

Turning to painting, I started with priming. Priming is vital… it not only gives the paint a good surface to adhere to, but all the various mistakes and faults show up well under primer so that they can be fixed. **12.** I like a zenithal prime. I start with Black. I spray the various assemblies black and then correct any flaws I find. I then re !prime as needed. "









13. Once the black is thoroughly cured, I temporarily assemble the figure and then spray white from about a 45 degree above all around. This gives us a great map of where our highlights and shades should be. Photos taken at this point give us a good reference as we continue. One could even then apply the colors as thin glazes, letting the prime provide highlight and shading. This would be useful perhaps for something like a small!scale wargaming army. **14.** For large!scale figures, you can certainly paint the flesh as we saw previously—you just have to take into account the larger scale, build!up your highlights and shades more gradually, and generally just apply more detail. In fact, this is often exactly what I do. However, with really large pieces (generally 1/10th and above), I often build up my flesh using many transparent or semi!transparent layers to provide depth to the skin and a sheer amount of color variation no amount of standard lights and shades can replicate. Over a zenithal prime, I often do what the art world calls a "zones of the face" study. In such, we divide the face into yellow, red, and blue zones. I do this with very thin glazes of oil paint applied with a brush. The oils gives me a long working time, are easy to blend together, and easy to remove if I make errors. I keep this layer transparent so that the lights and shades applied earlier in the zenithal prime still show through. "







15. The base flesh colors were built!up using air-brushed thin transparent layers of color. A shadow mix of Beige Red and Burnt Red was sprayed from below, Beige Red was sprayed from about a 30 degree angle above, and Basic Skin Tone was sprayed from the top. The cap was masked off with MiG masking putty to protect the pre!shade on it. These photos show the result after the cap masking was removed and eyes painted. This layer provided basic lights and shades but allowed the pre!shade and oils to show through a bit. It actually looks quite good at this point! **16.** Here, you can see the resulting shading around the eyes. Once airbrushing was complete, I painted the eyes. I started with whites. These were Chamomile with a bit of Basic Skin Tone mixed in. Highlights on the ball were Antique White. Tear ducts were added using Rose Mist. **17.** The upper lid and iris area were painted Black. The lower lid was painted a mix of Burgundy Red and Rose Mist. Take care to make sure both irises are the same size and shape and have the same alignment. **18.** The iris was painted Mountain Blue and a highlight around the bottom was painted with Mountain Blue plus Pale Blue Grey. A thin line of the black was left visible around the rim. **19.** The pupils were dotted in with Black. A small white catchlight was added at about the 2 o'clock position, opposite the iris's highlight. The catchlight is applied where light enters the eye and the iris's highlight is placed where the light exits opposite the catchlight. Note that I paint gemstones and lenses using the same method. One eye is slightly closed, so the reflection that is the catchlight is placed slightly differently. A final step, not shown, is to coat the eye with Clear Satin. This is in an optional step as the catchlight provides the appearance of shine, but I find that the bit of semigloss really helps sell the illusion, especially in larger scales. Note how realistic the eyes appear. The colors used to paint the eye are also shown on the next page. "



















20. Next the skin tones were refined—starting with the base tones and highlights. These were applied in VERY thin transparent glazes. I used first Beige Red, followed by Beige Red plus Basic Skin Tone. This was followed by Basic Skin. Note that to this point, these were the same colors used for airbrushing. Then I added highlights using thin glazes of Basic Skin Tone plus Light Flesh, followed by Light Flesh. The final lights were applied in the same fashion using Light Flesh plus Antique White and then Antique White. Colors are shown at top right. **21.** Shades were enhanced with thin glazes of Beige Red plus Black Red, followed by that mix plus Burnt Red. The next mix added Black, and the final glaze was Black. Note that these various glazes of highlight and shade were not applied in a "linear" fashion… I went back and forth between them as needed until I was satisfied. In short, it's a process I call, "F'ing with it until I am happy." The difference between painting smaller scales and this large scale figure comes down to simply more of everything. **22.** As is my normal practice, thin glazes, or filters, of color were added next. On the backs of the hands, the veins were glazed with Red Violet (and, once dry, a glaze of Beige Red was added over this). Dusty Purple was added under the eyes, inside the ears, and into some shadow areas. Magenta was added to the tip of the nose, the ear lobes, and the cheeks. A 5 o'clock shadow was added as appropriate using a mix of Pavement and Midnight Blue. This thin glaze was stippled on for texture. "





Next were the finger-nails. Back on page 51, we discussed my basic method using a graphic showing application with different sizes/scales. "















PARADE OF NAILS!

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23. Here we see my method applied to different scales. Note how as size increases, so does detail and highlighting. **24.** In this instance, the nail was based in the flesh shadow color. The nail color was the same as used on the lower lip (#25) plus Basic Skin Tone. The lunula added more Basic Skin Tone. The edge was Basic Skin Tone. **25.** In smaller scales, the upper lip is generally left in the appropriate shadow color of the Flesh, and the lower lip is painted in the flesh color plus a bit of red. In this large scale, the upper lip was painted using Black Red. The lower lip was started normally, being based in a mix of Beige Red and Burgundy Rose. Highlights were created by adding Beige Red. These were applied in small lines to represent the texture of the lip. "





26. I usually use the same process for hair—only the colors vary. But I nearly always start with a base color of the Flesh deep shadow color (usually a near black). The eyebrows were based with the same color. **27.** Exact methods depend upon how the hair is sculpted. Here, I started with basic forms. I started with Dark Brown. Next, I started picking!out sculpted clumps and strands, first using Autumn Brown. Hashes of this color were painted onto the eyebrows. "



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ALMOST PORTABLE: MG 08/15!



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28. Working in progressively smaller areas, next was Autumn Brown + Tan. This was followed by the same mix with more Tan. Finally, small lines were added using straight Tan. The same was added to the eyebrows. "

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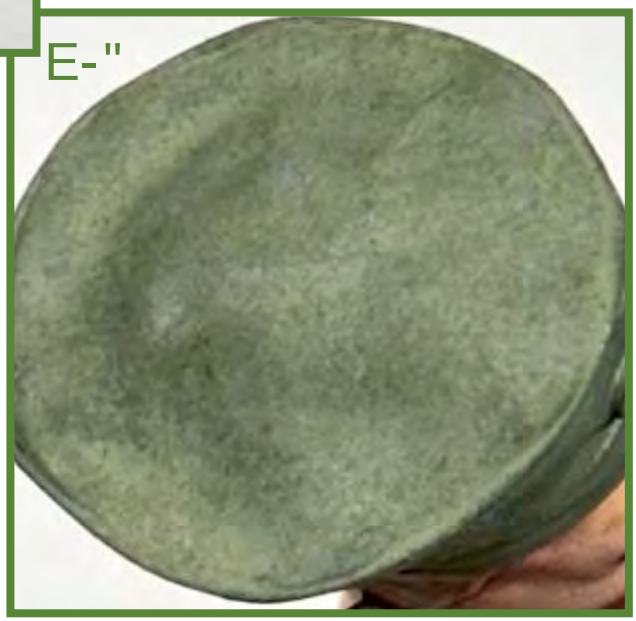
29. Here, in this much larger! than!life photo, we can see the realistically wide variety of colors, tints, tones, and shades we can get using this method. While most of the zenithal prime and zones of the face study are covered by later layers, they still influence the semi!transparent layers above and thus contribute to the final result. This shot also shows the detail and results seen on the cap. In reality, there is a high likelihood the cab band would be field grey like the hat, but red is possible and looks better—that pesky "Artistic License" thing again. "











30. Just like I started the flesh with the airbrush, I also airbrushed the base color of the tunic in thin layers over the zenithal prime, letting the lights and shades show through. From the bottom, I sprayed a mix of Field Grey and Black (from Scalecolor's "German Field Grey" paint set). From slightly above, I sprayed Field Grey. From above, I sprayed a mix of Field Grey and Highlights. **31.** Wool has a rough texture that needs recreated (or at least implied) in this large scale. To do this, I took an old brush and sliced the end of the bristles off, leaving a flat end. This was dipped in paint and then stabbed, or stippled, onto the figure. This was done with multiple similar colors (and mixes thereof) until I had covered pretty much the entire surface. The more layers, the more realistic the effect. **32.** Here we can see the result to this point on the top of the cap. "





33. Highlights were created in the same fashion. A few of the colors were mixed with progressively more Highlights and stippled in place. Shades added progressively more Black and were glazed in place normally. The result to this point is seen here. **34.** Details finished the jacket. These were painted normally. Note the texture applied to the NCO tresse on the collar and the gas mask case webbing strap. This latter consists primarily of lines of weave. On the jacket, in addition to the wool texture, note the edge highlighting on the edges of cuffs, collar, and around seams. "

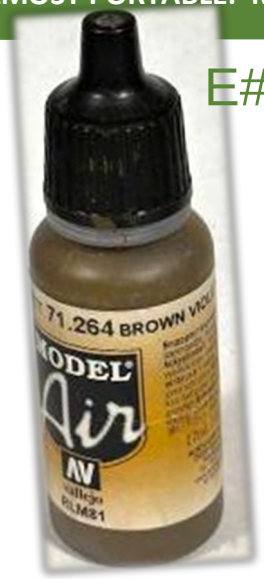






35. An advantage of 3D sculpting is the detail and uniformity of the buttons, with the Prussian crown in place. These were based in a mix of Antique Brown plus Burnt Umber, highlighted first with Antique Bronze and then with Brass. Shading was accomplished with a wash of Brown ink. They could also have been painted field grey (or worn, with the brass showing through). **36.** The last task was the gun. Before airbrushing the water jacket, I added some edge highlights using straight white, to help make these "pop" on the finished piece. "









37. I also started the machine gun water jacket with the airbrush. Spraying was then done with VERY thin paint, gradually building up color until I was happy with the result. The color used was Brown Violet. Here we see both the upper surface as the gun is being held (the highlight) and the underside (shade). This thin layer over the zenithal priming, gives us all of the highlights and shades needed. Note the edge highlights applied with a brush in step 36 still show. "







Next up were dot filters of oil paints. This is a method commonly seen on armor models, and it also works well on large!scale equipment such as this water jacket. Depending on colors used and where they are placed, dot filters can reinforce highlights and shading, they can recreate effects such as fading and rust, and/or they can provide an overall grunginess. They also imparts a depth and variation in color that is almost impossible to achieve with standard layers and glazes. And the method is remarkably easy to do! **38.** I start by placing small dots of oil colors pretty much randomly. Although you will note most of lighter colors are on upper surfaces and most of the darker on lower. I also placed most of the "dirty" colors on areas subject to staining. **39.** Next, using an old brush (an old worn!out #2 in this instance), I gently blended and streaked the colors together. The brush should be moist (but not wet) with appropriate thinner—I use Mineral Spirits. The good thing about oil paints is their long working time, allowing plenty of time to push the paint around until you are happy with the effect. Colors used are shown above. "





40. The next step was to show where paint had been chipped away. I generally apply chipping as a two part process. I start with a light color and add chips and scratches were they would logically occur—mostly on edges and areas where damage is likely. These represent light scratches and chips. **41.** To represent deeper chips, in the center of many of the lighter scratches I add darker ones, represented the underlying material—the original black!painted water jacket in this case. To create these, I used a mix of Black, Burnt Umber, and a tiny bit of Metallic Black. Dot filters are applied with oils, but chipping is generally applied with acrylics. "









Prior to painting the steel of the receiver, I painted the wooden stock. I did this now, as the process can be a bit messy. **42.** I started with acrylics, using Autumn Brown, Territorial Beige, and Tan wet blended on the wooden stock (the colors were painted on and lightly streaked and blended while they were still wet). The grip was painted Autumn Brown with Tan used for edging and dry!brushing over the checkering. **43.** Turning to oils, and using an old ratty flat brush, I painted on a thin layer of a mix of Burnt Umber and Burnt Sienna. I added just enough thinner (Mineral Spirits) so that I could paint a fairly even layer. To protect the painted hand, I covered it with MiG Masking Putty—is stuff is somewhat like Silly Putty, it is easy to take on and off, and it doesn't leave behind any residue or staining. I let this set about 15 minutes so that the thinner could evaporate—both on the model and on the brush which I had cleaned after applying the oil. **44.** I then went back, using the same ratty, but now dry brush, and removed oil paint—streaking in the direction of the grain. The result of this process is a very realistic wood grain finish. I then went back with the lighter Territorial Beige and Tan and added some additional wear on the edges. That is an optional step. You could also coat the wood with a varnish (satin or gloss) or even a transparent layer of color (such as Tamiya Clear Colors to represent a varnished stain or finish. "











45. The receiver was painted in a mix of Pavement and Black (Black in shadow areas). Wear and color variation was provided by mixing in differing amounts of Steel, Silver, and/or Burnt Umber. Oil dot filters were added using Burnt Umber, Dark Rust, Light Rust, and Neutral Grey. 46. Some additional wear was added with pencil lead! The pencil lead was rubbed on sandpaper to make a powder. This can then be picked!up with a finger, brush, or cotton bud and rubbed on the model as needed. I used a flat rubber cone brush to both pick!up some of the powdered pencil lead and to rub it on wear areas. The result is very realistic. Other metal areas, such as the muzzle break, were given the same treatment. Outlining was done using Black ink. "







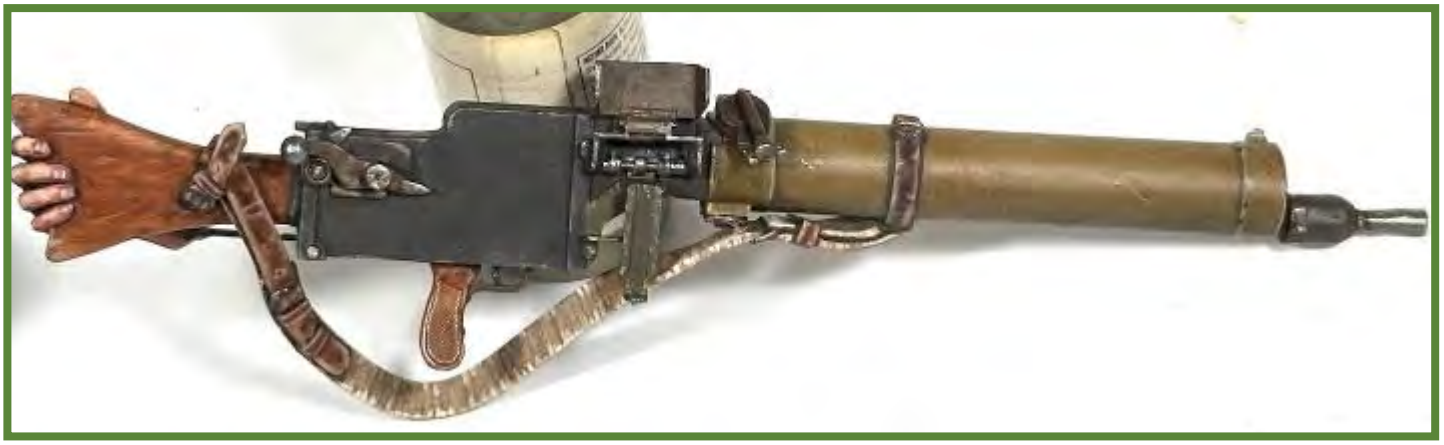
As sculpted, the sling is made of webbing with a leather end. It is attached by two leather straps—one through the stock and the other around the water jacket. The leather portions were painted as seen previously. The only difference was in the amount of detail added. 47. The webbing strap was base!coated in a mix of Autumn Brown, Territorial Beige, and Khaki Base A (for a slight greenish tint). "







48. In this scale, the rough woven texture of the webbing must be depicted. I started by painting lines using first the base color plus more Territorial Beige and Tan. Next, lines were created by adding a slight bit more Tan. **49.** Continuing, a mix of Territorial Beige and Tan were added to each line in the form of dots and hashes. Some wear and edging was then added using Tan. Finally, some worn edging and damage was created using a mix of Tan and Antique White. Shading was done using thin glazes of Khaki Shadow A. Outlining was done using Black. Not shown, buckles were based in a mix of Lead, Burnt Umber, and Black. Wear was added first with Lead and then with Steel. Once again, outlining was done using Black. "









On the bottom of the previous page we see the finished MG 08/15. At about 150mm, the gun itself is larger than most of the figures included in this work. It is certainly a kit all in itself—and a nicely detailed one. Arguably, even more than the figure's face, it is the main focal point of the piece As such, great care must be taken in painting it. Painting it a simple gun-metal color, dry!brushed with steel, and giving it a black wash would not be sufficient—although such a method would work fine on all but the sling and stock in a small scale such as 1/72 or perhaps even 1/48. On this page we see the figure after all the various parts and pieces have been glued in place. Note the attention given not only to detail, but also to texture. This is an outstanding bust that was a joy to paint. I am very happy with the result. "

LEFT BRAIN / RIGHT BRAIN: REALIST VS. ARTIST!

My 9th compositional commandment is "Artistic License is OK". We use artistic license for one of three reasons. First is to fill gaps in knowledge. If we don't have information on a uniform, insignia, piece of equipment, etc., we have to guess. A second use to is create a more appealing piece (perhaps pushing contrast or weathering a bit far or clustering figures together a bit too tightly for drama). Finally we use it due to style. The strong edge highlights and outlining I use look good and aid readability, but they may not be exactly accurate. Some of the decisions I made with this figure (the red hat band and the green machine gun cooling jacket for example), while not unrealistic, were made for artistic and not historical reasons. This is something I do often and am not in the least uncomfortable with.

The left side of my brain is a "realist" that wants to paint what I see. The right side of my brain is an "artist" desiring to paint what I feel. My compromise is to allow the right to be creative within the bounds of acceptable (to me) possibility set by the left. The right brain is the dog, wandering to and fro, sniffing everything on the daily walk, while the left brain is the owner that holds the leash. Research determines the amount of slack in the leash. What colors were specified, actually applied, and how much variation was there? Were non-regulation items and clothing used? What environments were they in? How weathered and ragged did they become? Let's be clear – there is nothing wrong with the left brain's approach in historical applications, but followed dogmatically it unnecessarily limits our options—and often may not actually be realistic! That does NOT mean we ignore our sources, only that we can take some liberty within historical parameters to please our wandering Right Brain dog.

Even those who take a strong stand against artistic license often themselves practice it! Some of the extreme highlighting and shading (or "modulation" in the armor world) owes more to our inner artist than our realist: but if done well it looks good, gives the impression of dynamic lighting, and makes shapes and details pop. The concept of "scale distance" states that colors fade toward neutral grey as an object gets farther from us, so in theory, we should fade our colors about 10% in 54mm. But I rarely (never) fade my colors. My right brain prefers more vivid, saturated color. We use filters – thin transparent layers of color - to subtly alter the tone or value of color in certain aspects or areas. This adds artistic visual interest, reinforces our shading, or creates faded or dusty paint effects. Dark blue or purple filters help in shadow areas. As an example take an area of green. Apply first a filter of yellow and then a filter of blue. What you have is still green. But the filters give you a variety and liveliness of tones and hues that no amount of mixing on the pallet or in the airbrush can hope to match. Likewise, many weathering techniques—such as chipping—are often over scale or overdone. But, again, when done well, they look great and give the impression of hard use and wear. Mr. Left Brain is OK with it, and Mr. Right Brain dances with joy.

Color harmonies are useful. Complimentary colors are those opposite each other on the color wheel. Yin and Yang meet Left and Right Brain. Side by side, they offer the highest amount of contrast. Granted, we are often limited by the "range of possible" – historic items are usually in specific colors. However, another use for complimentary colors is for shading– when mixed they are muted and subdued. We can use green to shade red, purple to shade yellow, blue to shade orange, and so on. Try shading Yellow with colors such as Black, Brown, and Purple. Black will make it muddy or greenish. Brown and purple create different effects, but notice that with the purple, the apparent color will appear most consistent. What about color "triads"? These works best when using one as the main color with the other two as accents. Our WWII Dark Yellow German tank looks good (and realistic) shaded with Purple filters and featuring Green camouflage. Another harmony is "analog" where we use colors adjacent to one another on the wheel—that Dark Yellow German tank shaded and camouflaged with Brown and parked amid autumn leaves. Our Right Brain loves chasing that ball and our Left doesn't mind throwing it.

Colors can be warm (from the Red/Yellow sides of the color wheel) or cool (from the Blue side of the color wheel). Temperature is relative - Blue mixed with a bit of Red is warmer than Blue mixed with a bit of Green, and Yellow Green is warmer than Blue Green. ALL colors – even Black and White – can be warm or cool. White with a touch of blue is cooler than White with a touch of Brown. We can warm or cool versions of any color to impart mood or actual temperature. Also use it to draw attention – paint your main focus in warm colors while using a cooler pallet for the background groundwork. As a practical example, take a Panzer Grey vehicle. Thin filters of Red, Yellow, or Orange will make it warmer without altering the base color substantially while Blue or Green filters will cool it. Right brain is happy and Left Brain isn't offended. If you haven't already figured it out, there is no secret formula for choosing palettes and methods for each project. For anyone interested in color, I recommend getting a nice color wheel and learning how to use it. Not only will it help keep your Left Brain satisfied, your Right Brain will be able to be let off leash to roam freely!

On a related note, It's popular in the figure modeling world to refer to the hobby as an art. But is it? A better question might be, "Who cares…a label changes nothing." What is art? Mona Lisa? Michelangelo's sculptures? A white canvas with a splatter of paint on it? Construction paper shapes glued to a paper plate by a child? The dictionary defines art as, "the conscious use of skill and creative imagination especially in the construction of aesthetic objects; also: works so produced". So, yes, modeling can be art – I've seen imaginative, creative, evocative pieces that, by any definition, would qualify. But if we paint a straight-from-the-box figure where is the "creative imagination" in that? Skill? Yes—if it's done well. But it's no more than a 3D paint-by-numbers exercise. Art is different things to different people, so while there is an objective definition, interpretation is subjective. Those two words separate modelers from artists. Art is often subjective – aiming at emotion and evoking a response. Modeling is usually objective – aiming at recreating reality. Proof? Visit web forums where people berate a figure for the tiniest error or argue over the exact right shade of a color. No matter how much we may like to call ourselves artists, judging at shows is primarily on objective aspects - building, sculpting, and painting.. Some organizations even use checklists and detailed scoring systems, removing even more subjectivity: a completely inappropriate method of "judging" so-called "art".

So, for most of us it is simply craft – and modelers can be craftsmen of great or little skill. The same person can be both artist and craftsman depending on the intent of the particular piece they are making, the story or emotion it portrays, the skill and creative imagination that goes into it, and, most importantly, the response of the viewer. So in that regard, yes, the term "artist" is certainly appropriate.

On the other hand, I (cynically) think most who prefer the term "artist" do so simply because it sounds more impressive—a higher level than craftsman or modeler. By calling themselves "artist" they can look down their noses at mere modelers. On a still more negative note, there are those who claim "artistic license" as an excuse for poor craftsmanship or to justify a lack of research or accuracy.

So, is it art? You decide – because I don't care. My ego does not need fed, nor will my methods or subjects change based on a label.

STORM OF STEEL!

Assembly, Detailing, !
Scratch"Building, Painting,
Groundwork!



STORM OF STEEL!

The title is taken from the WWI memoir of Ernst Jünger. First published in 1920, “Storm of Steel” is a first-hand account of WW1 combat. I used the original 1929 translation as it is the best. It is a piece I had wanted to do since Model Cellar released the figures in 2019. This scene uses all four of their 75mm German infantrymen—designed to fit together with interlocking bases. Model Cellar calls the scene, “Defending the Position”, but I chose not to use the kit-provided setting, and added more ”stuff”, more stress, and more drama.

Our main themes in this section will be composition and groundwork. Quotes at the bottom of the pages (by Ernst Jünger) illustrate why I made the modeling decisions I made and show the importance of research to our final result. Compare these to my finished work, and you will see their influence. We will also look at figure detailing and creation. We will only look briefly at painting, this aspect having been thoroughly covered previously. !

“ The horrible was undoubtedly a part of that irresistible attraction that drew us into the war. A long period of law and order, such as our generation had behind it, produces a real craving for the abnormal, a craving that literature stimulates. Among other questions that occupied us was this; what does it look like when there are dead lying about ? And we never for a moment dreamt that in this war the dead would be left month after month to the mercy of wind and weather, as once the bodies on the gallows were."

STORMTROOPERS! and BATTLEFIELDS!





Above: Two views of soldiers wearing the 1915 field uniform. Grenades are carried in sandbags over the shoulders. One wears marching boots, the other low boots and puttees. One carries a shovel on his back, the other wire cutters—both vital tools for WW1 combat. All of these appear on the figures in the diorama. Top Right: This man wears the 1915 transitional uniform. Note the grenade bundle consisting of multiple grenade heads wired around a single grenade. Assault tactics relied on grenades, pistols, and close combat weapons such as knives, clubs, and sharpened entrenching tools. Rifles were often slung for use in fighting off counterattacks. Note the trench shield at his feet. One of these finds its way into our scene as well.

The Germans went to war in the 1907/1910 field grey field uniform. The tunic featured piping and Brandenburg or buttoned cuffs. A transitional uniform appeared in early 1915 that introduced simpler turned back cuffs and plain rear flaps. A new uniform was also introduced in 1915 which replaced the metal buttons with horn buttons covered by a fly front. This new uniform also eliminated many of the previous unit/state distinctions. All these uniforms remained in production throughout the war. Stone grey trousers were introduced early in the war. Puttees were initially worn primarily by stormtroopers, but became more common later in the war. A steel helmet was also approved for universal issue in 1916. As with most armies in most eras, new items only reached the front gradually and old items remained in service. Thus, just like our figures depict, in our later war setting it is possible to see all the various uniform items in use.



Above: The MG 08/15 was a "light" version of the standard MG 08 Heavy machinegun designed to be man portable in order to accompany assaults. While adequate, it was not ideal. While it featured a lightened version of the weapon's receiver and breech, it retained the bulky water-cooling jacket. It remained belt-fed with the belt housed in a large magazine. It was also equipped with a shoulder stock. As seen, it could be fired on the move or from its bipod. At 46 pounds (with water), it was "light" in concept only. First appearing in early 1917, it saw service throughout the remainder of the war in ever-increasing numbers.

"...I devoted my efforts to the training of a shock troop, as it had become more and more clear to me in the war that all success springs from individual action, while the mass of troops gave impetus and weight of fire. Better command a resolute section than a wavering company."



At left we see a long-dead German soldier partially buried (or partially unearthed) in the wastes of no-man's land. Scraps of clothing and equipment remain, and he still wears his steel helmet. My skeletal Frenchman was based on this photo. Below is An official British print showing hand-to-hand combat in Delville (Devil's) Woods, 1916. At the bottom we see a portion of a panoramic photo showing the blasted landscape in front of the trench systems—no man's land. This land was not "owned" by either side, but that doesn't mean it was empty. It was the location of patrolling, raiding, wire-laying parties, casualty recovery teams, and snipers. Some areas of WWI's Western Front, due to gas contamination, large numbers of human and animal corpses, mines, and unexploded ordnance, remain uninhabitable or dangerous to this day.





"We had no object in view than to make a little tour on the other side of the wire and see what no-man's land might bring forth; for trench life had begun by degrees to be monotonous again. "











" I had to leave the unlucky ones to the one surviving stretcher-bearer in order to lead the handful of unhurt men who had gathered around me from that dreadful place. Half an hour ago at the head of a full battle-strength company, I was now wandering around a labyrinth of trenches with a few, completely demoralized men. "





Some bits from three other Model Cellar figures (that we have seen or will see) made their way into the diorama. Cast copies of some parts from the British Trench Raider and the French Poulos shown here formed the basis for conversions (or donated some parts) to create the dead used in the scene. As I only needed some parts, and not entire figures, I did not purchase extra copies. So many changes were made, the parts really served only as mannequins upon which to make new figures—using the copies simply ensured consistency of size. But please note, if making copies of parts from commercial kits, be aware of piracy laws. You can copy parts for your own use, but cannot sell them or even give them away. The same rules apply here as for books, movies, music, and so forth.

Composition is a vital component of a diorama such as this one. We have a lot going on in a small space. We want to not only get our point across, but also have the best-looking piece we can, and pack in all the desired detail to set the stage and tell the story. But we do not want all that detail to distract… everything should have a purpose. Cleverness for its own sake never helps us create great pieces. In Part I of this work, we reviewed my "Ten Commandments of Effective Composition". Here, let's take a dive into how they apply to this work.

!

1. HAVE A SINGLE MAIN POINT: My intention was to show something of the violence and horror of WW1 combat portrayed in the book, "Storm of Steel". I used Model Cellar's four-figure WWI German Infantry set as the basis with additional figures to represent fresh casualties and the disinterred long dead. The ground is a waste of destruction. I leave it to the viewer to determine whether our soldiers are in their own lines, no-man's land, or the enemy lines. They are not wearing assault packs or bread bags, so this is likely a defensive operation, a raid, or a patrol. Regardless, they're ready for a bound, clearly to be initiated by the toss of one (or more) grenades.

2. DIRECT THE VIEWER'S EYE: I tried not to place undue weight on or minimize any main figure and keep the dead in a support role. While I changed the setting from that in the kits, most positioning remained the same (the officer moved from back to front). The diorama is small and compact and can be taken in at a glance. The grenadier is front center nearest the viewer. This is a visually strong position reinforced by the other figures looking at him, but he is also at a low point in the composition and turned away from the viewer. The officer in the back is, theoretically, in the visually weakest portion of our picture, but this is mitigated by his elevation and looking toward the viewer. The dead are only partly visible, being buried, masked by other figures, and facing away from the viewer. They are, in effect, part of the groundwork, and so do not draw attention from the main players but remain a key clue to the story.

3. SHOW ACTION AND INTERACTION: Although three figures are "at rest", it is implied they will be attacking in mere seconds. When composing a story, we look for what Howard Pyle called the "Supreme Moment" where stress and drama are highest. This can be the action itself, the aftermath, or—as seen here—we see the anticipation of coming action. The officer is set to lead his men in the next bound as one soldier paves the way with a grenade. All eyes are on this man as they wait to dart forward. Thus we illustrate not only a moment in time, but also German assault tactics. The unearthed corpse shows the fighting has been on-going—over the same ground—for quite a while. Will these men soon join the dead?

4/5/7: TIGHTNESS, BALANCE, AND DEAD SPACE: As is my preference, the scene is small and compact. The ground is a steep slope—the side of a shell crater—and the figures are balanced. By keeping the composition as tight as practical and filling the space around the figures with dead and the detritus of battle, we ruthlessly eliminate any possibility of dead space. Note that the figures are grouped "as tight as *practical*", NOT "as tight as *possible*." They could have been more compressed, but that would have made it hard to see them, reduced space for the critical-to-the-story dead, and may have pushed the bounds of believability— bunching up was bad, tactically. Placing them this close with so much "stuff" does more than eliminate dead space—it imbalances the ratio of positive to negative space, adding stress and drama. This helps depict the horrors of WW1 combat.

"That night, then, I once more prowled about between the trenches with three companions. We crawled on all fours right up to the English wire."



6/8. USE ALL THE ELEMENTS/USE SHAPES, AND ELEVATIONS: Everything in the scene helps tell our story. The figures' actions and interactions are key. But the ground provides context and setting. The slope gives an idea of the difficulty of moving in the destroyed ground and, incidentally, allows all the figures to be seen without masking each other. The dead, long dead, old wire, the various debris and the fact three armies are represented shows the hellish landscape of WW1 trench warfare and tells us this ground has been a front and rear area for multiple combatants over time. This destruction gives us an idea of the violence—and longevity—of the struggle. I chose a circular base as I didn't necessarily want the scene to have a "front". This could imply the fighting is in no-man's land between the lines. The finish on the base is complimentary to the scene. The nameplate tells us we are in a "storm"… not of weather, but of steel. For those wanting to lock down the time and location of the diorama, even though not important to my story, the elements give us clues. The recently killed British, perhaps a patrol or raiding party caught in no-man's land or defenders in their destroyed trench system, show who the current enemy is. The partially unearthed French corpse shows this was once a sector the French army had manned. All the various debris tells us this piece ground has, at times, been both front and rear area and has been controlled by both sides. Maybe we are near the Somme battlefields? And, of course, the soldiers show by their uniforms, weapons, helmet camouflage, and equipment that we are in the late-war period—most likely we see an attack or counterattack during the Allied offensives of late July, August, or September of 1918. From the "front" angle (the facing with the nameplate) the wall, sandbags, and officer form a partial backdrop. The corrugated iron sheets, wire pickets, trees, and duckboard section further frame the scene and form a visual border.



9. ARTISTIC LICENSE IS OK: How much license is used in this piece? Maybe a little. The battle is non-specific. Maybe they are bunched unrealistically. Maybe not. Still, details of uniform, equipment, and weapons are accurate. My goal was not to create a photo-accurate recreation of an exact circumstance. My goal was to create a certain feel and impression consistent with my primary references. These feelings and emotions are every bit as important as historical realism in this case. So, while artistic license is OK, we must not push it past the point of the *appearance* of realism and historical accuracy—in other words, **our composition must be believable**. I think I have succeeded in that regard, but final judgement must rest with you, the viewer. Artistic license is just another tool in our toolbox. Perhaps paradoxically, sometimes we can actually *enhance* the realism and believability of our pieces by pushing the boundaries of accuracy.

"The English had twice – without success to be sure – attempted a raid in force against C sector. We had retaliated, after heavy preparation, by at attack of three officer patrols on the so-called trench triangle, and had taken a number of prisoners."



10. PLAY WITH IT: I could have used the perfectly acceptable kit-supplied groundwork, but I wanted something more dramatic. I could have significantly altered the arrangement of the figures, but the directions of their glances (toward the grenadier) limit the possibilities short of conversions. Thus, in this instance, my main playthings were the positions and poses of the various corpses, and the exact content, location, orientation, and damage to the ruins, trees, sandbags, wire, rubble, and other flotsam and jetsam of battle. My scene was essentially built around Model Cellar's scene. Thus, while our scene looks like a spontaneous moment in time, it was actually very carefully planned. Various arrangements and options were considered as seen on the next page.

Also note the quotes included on the bottoms of each page. Much of the overall "flavor" of the scene was guided by these quotes from the book, "The Storm of Steel" by Ernst Junger. The book is one of the best memoirs from the war.

At left we see the "Rule of the Golden Triangle" applied to this composition. It's a shape I really like, and I use it often. This compositional tool consists of a line drawn from opposite corners. Two other lines from the other corners intersect this at right angles. It gives us "zones" in which to place key elements, and the intersections are natural focal points.

Second Sight:!

Second sight is the ability to perceive future events or to see into the spirit world... perhaps a bit dramatic for the subject at hand. Maybe "Foresight" would be better. Or "Planning". But in a way, seeing the future applies: I will not, as a rule, start a project unless I can visualize what the final result will look like at least in its basic form - specifics and details can be filled in during my compositional process or actual construction. In other words, I need to see the end from the beginning. There must be light at the end of the tunnel before I enter it.

Some reasons are obvious. What if we do not realize our story requires a figure conversion until after we've built or, even worse, painted the figure? If we don't have a plan, we don't know what we need to do, and we may go down a lot of blind alleys – "oh-poopie" moments which may cause us to abandon what could become our masterpiece. Some reasons are less obvious. If working out composition and creating groundwork using finished figures, the risk of damage is increased. Even with a simple "painters" figure, we want an idea of needed effects. This can impact the order of painting which can impact the sequence of assembly. Not a showstopper, but lack of planning makes our task more difficult than it needs to be.

Still, there is always a small risk of failure, frustration, or lack of motivation for whatever reason. Not all projects will get finished, but having a plan puts the odds on our side. Prior planning is like, at worse, playing Russian Roulette with only one bullet loading in the revolver. But going into a project blind is, at best, like playing Russian Roulette with only one bullet removed - resulting in a high probability of a severe headache. Norman Rockwell, stated, "Too many novices, I believe, wait until they are on the canvas before trying to solve many of their problems. It is much better to wrestle with them ahead of time". I wholeheartedly concur.

You may say you don't need a plan if building straight from the box, painting per the box art and using the kit-supplied or a basic piece of groundwork. But it does apply: in case you didn't realize it that course of action is a plan… and a perfectly workable one! But your sentiment is correct - the more in-depth the piece and the more complex your story the more important this prior planning becomes. How can you hit a bullseye if you don't even have a target?

The most likely result of going into a project blind (assuming frustration doesn't cause abandonment) is getting the perfect idea ... five minutes after you have completed the piece. Planning, foresight, second sight (whatever you call it) is the secret to making your ideas come to life. And making realistic pieces come to life from your imagination is the most fulfilling aspect of our hobby. At least for me.

"The English appeared dragging a roll of wire. They stopped just in front of us, cutting the roll of wire with wire clippers and talking in whispers. We crept nearer together in order to hold a muttered consultation. 'A bomb in the middle of them and then grab him'".

During the process, I considered three possible based in addition to numerous arrangements. The bases were as follows:

- A round base, 2 inches tall with a 4 inch diameter was ruled out as being too small. It would have worked with the stock kits, but would not have allowed for many of my additions.
- A rectangular base, measuring 4.7 x 3.9 inches and standing 2 inches tall was nice, but was a bit too rectangular for my liking—a round or squarer base would work better with my idea. It also seemed a tad small.
- My favorite was a 2 inch high/5.25 inch diameter round base. I started planning using this base. Had I discovered it didn't work, I would have looked for a different one. Always keep an open mind about such things! , and don't fully commit to any course of action until you have to!

With complex compositions, I often start with hand drawn or computer sketches as it helps me visualize what the final result will be. Once happy with this, I use it as the starting point for working with the models themselves and adjust from there as I see what it actually looks like in the flesh. In this instance, there were a great many changes between my starting and ending points. Initially, I had planned for two dead Brits in addition to the German and disinterred French dead. At one point, I even considered adding an abandoned field gun or trench mortar. I also initially placed my dead Brit (the one I used, in the pool at bottom center) as seen at right.

As normal, I did not settle for my first arrangement but tried variations until I arrived at the composition I was most happy with. After working with sketches, my first arrangement using the figures them-



I was not pleased with the dead grouped together, essentially dividing the living into two separate clusters—creating a composition where the Germans are in two linear groups divided by the dead Brit. In that arrangement, the dead become a main focus—something I wanted to avoid. Also, the two middle Germans (the machine gunner and riflemen) were on level with each other on the same contour line. In other words, this composition could be a lot better. In the final composition, the dead Tommy moved to the side and the dead German took his place—allowing me to bury the Tommy and spread out the dead, shifting them into the background. The rifleman moved downslope putting each German on a different level. Stumps were changed. I slightly changed the viewing angle—the base is round, so "front" is where put the nameplate. This angle ensures no figure is masked by others (except the dead whom the masking helped minimize). The four figures are an arrowhead aimed at the enemy. Add the dead (including the skeleton) and the shape becomes my favored triangle. Slight changes yield vast improvement. This is why we always, "Play With It".



!!!!Left: The figures as Model Cellar intended them to be posed. Each figure comes with his own base that all fit together to create a trench scene. The story is similar to my diorama. I simply added more eye-candy—all while (hopefully) keeping the focus on these four main players.

Each figure contains part of the trench section. The officer is in five pieces: torso with legs and pistol holster, head with cap and collar, left arm with walking stick, right arm with pistol, and gas mask canister. The grenade thrower is in eight pieces: torso with legs and some equipment, grenade bag and bandolier, left arm, right arm with grenade, canteen, gas mask canister, head with helmet, and rifle. The rifleman is in seven pieces: torso with legs, head with helmet, left arm, right arm, right hand with rifle, canteen, and gas mask canister. The machine-gunner is in eight parts: torso with legs and left arm, head with helmet and collar, right arm, machinegun receiver and stock with right hand, machinegun barrel, machinegun ammo drum, canteen, and gasmask canister. All but the officer include a piece of pewter foil with which to make needed weapon slings.







Here we see the parts and pieces of one of the figure kits. It is representative of all the others. Model Cellar sells the figures for $45 each at the time I purchased them—a very reasonable price for quality 75mm figures. WW1 features heavily in Model Cellar's line. I purchased all four of the figures together at the Long Island Miniature Collectors Society (LIMCS) show in 2022. You can find them online at modelcellar.com.

As is typical with Model Cellar, the pose, anatomy, and animation of the figures are very good. Action and interaction between the figures are outstanding. Basic detail is good, but some fine detail is lacking—not quite up to the normal standard of the company. As we shall see, the figures can benefit from some additional extra detailing. Engineering is good and fit of the parts is also good, with only minor putty needed on some joints. Casting on the main piece of the officer is not up to the standard of excellence I have seen on other Model Cellar kits in my collection. There are some prominent mold seams and, as seen above left, there are some areas with pitting and voids. This is very uncharacteristic of Model Cellar. Thankfully, none of this requires major work—some simple putty application as seen above right takes care of the issues. All the other figures and parts are fine.

After clean-up, parts were assembled using my normal methods. Parts were pinned for strength and glued with two-part epoxy (large parts) and superglue (small parts).

"My method of advance... consisted in this, that over ground in which we might at any moment run up against the enemy each member of the patrol crept forward in turn. In this way, only one man at a time exposed himself to the risk of being shot from an ambush, while the rest, in a body behind, lay in readiness to attack."

Some extra detailing was done on the figures. Some of this, such as the weapon slings, water bottle details, helmet strap, and gas mask canister latch was done to add missing details. Others, such as the shovel, extra grenades, and gas masks are optional personalization choices.

1. The water bottle in the kit is simply a pear-shaped piece of resin. I added straps lengthwise and around the cap using thin plastic strip. Buttons for a side opening on the leather cover were added using salami slices of .75mm styrene rod. For the canisters, some gizmos from my spares box were glued in place as shown to create the latches. Once the superglue fully cured, they were sanded down so that they were quite thin.

1









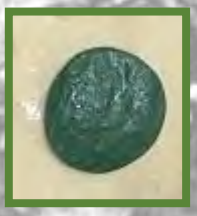
2

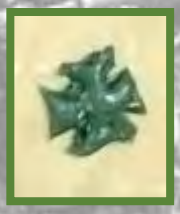




2. Helmet straps were fashioned from styrene strip with small buckles sliced off old 1/35th scale plastic figures. Styrene strip was also used to create a strap attaching the two grenade bags together in the rear.
3. An Iron Cross First Class was added to the officer's breast. This small medal (2mm) was made by pressing a blob of Kneadatite putty into place and then cutting it into shape with a hobby knife. Not shown, the ribbon of the Iron Cross Second Class was added using a small strip of metal foil. !

3

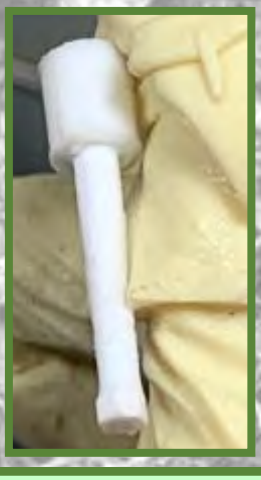




4. Stick grenade handles were made by shaping plastic rod using my Dremel Motor Tool as a lathe (see next page). Once shaped, the handles were glued into larger styrene tubing. Once the glue set, they were cut to length. The handles were a tight fit into the tubing, so no additional putty work was needed. I did not add the belt clips to the grenades as these would be hidden. However, as seen at far right, a bit of styrene was used to fashion the belt clip on the grenade being thrown. When attaching the grenades to figures' belts, be sure to cut any needed channels in the clothing so the grenades have a sense of weight as seen at center right.

4







"Suddenly there was a deafening crash on the edge of the trench. I got a blow on the skull, and fell forward unconscious. When I came round, I was dangling head down over the breech of a heavy machine-gun, staring down at a pool of blood that was growing alarmingly fast on the floor of the trench. The blood was running down so unstoppably that I lost all hope. As my escort assured me he could see no brains, I took courage, picked myself up, and trotted on. That was what I got for being so foolish as to go into battle without a steel helmet. In spite of my twofold hemorrhage, I was terribly excited, and told everyone I passed in the trench that they should hurry to the line, and join the battle."





5. The pistol muzzle was drilled out and a front sight added from a bit of plastic strip. The barrels of all other weapons were drilled out including the flash hider of the MG08 15.







6. The handle of the pioneer shovel was fashioned from a length of styrene rod. This was chucked into my Dremel Motor tool, and, using a slow speed to avoid melting the plastic, the tool was used a lathe to shape the handle with a sanding stick. The stick was cut to length and the collar added with a bit of thick aluminum foil (cut from the lid of a frozen dinner). 7. The carrier was made of Magic Sculpt epoxy putty. The putty was roughly shaped as seen and then allowed to cure. After curing, it was carved and sanded to the final shape. 8. To give the shovel weight, a recess was cut in the figure's jacket skirt in which the shovel fit. 9. The parts were glued together and additional straps made from thin styrene strip. Fastening studs are slices of styrene rod. The shovel was attached to the figure and a strap made from metal foil with a photo-etched buckle secures the handle to the jacket's shoulder strap.



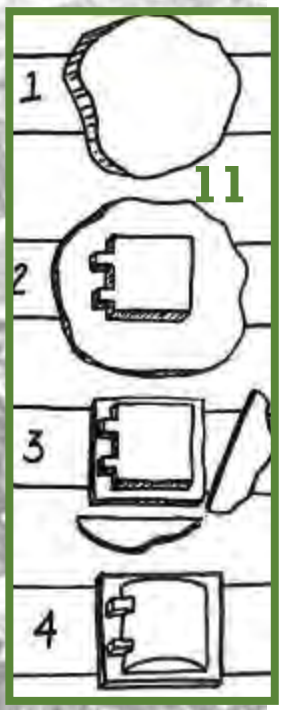


"Our entrenching tools came against rifles, equipment, and cartridge cases of 1914, showing that this soil was not drinking blood for the first time."





10. The carbines can also use a bit of detailing. I added a few details to the muzzle including the wings that protect the front sight. I also added the visually obvious stacking rods (one of the key identifying features of the Karbiner 98). Weapons slings were made from rolled-out Kneadatite. Sling swivels are fine wire. **11.** Sling buckles, where needed, were made from Kneadatite as shown in the diagram. **12.** Wire cutters for the dead German were made as shown. This is a classic example of the sculpting maxim that how something is actually made or works is irrelevant—only appearance matters. The cutters were fashioned from four pieces of styrene bar stock and several slices of styrene hex or rod stock. After these were glued together, handles were fashioned using my Dremel as a lathe as seen previously. The belt clip to hold them was made from pewter foil.







13. Small holes and tears in the clothing were made by first cutting away resin to the depth of the underlying clothing or skin. The hole was then "repaired" using putty. While the putty was still soft, the hole or tear was gouged or cut using a hobby knife.

"The rush of air sent me flying over a bundle of barbed wire into a shell-hole full of green slime, with a shower of hard clods hurling after me. I got up half-stunned. I was in evil plight, breeches and boots were ripped with barbed wire. My face and hands and uniform were plastered with mud, and one knee was bleeding from a long scratch."









14. The gas masks were started by gluing a thick and thin slice of styrene tube onto a styrene rod. **15.** Once cured, these filter assemblies were chucked into a motor tool and shaped with files. **16.** The excess end of the rod was sliced off and replaced with fine wire. This was used as a pin to fit the assembly to the figures. Most were attached to the chests and hung at a natural angle. **17.** On the dead figure, it was attached to the face in the proper place. Straps were added using styrene strip of rolled-out Kneadatite putty.



18. Eye pieces were made of slices of styrene rod fitted into tube (smaller than the filter assemblies). These were glued to thin disks of rolled-out Kneadatite. I used the putty as I wanted these disks to be flexible to conform to the face piece. **19.** The masks themselves were fashioned around the filters and straps using a mix of Kneadatite and Magic Sculpt. While still a bit soft, the eyepiece assemblies were superglued in place.



"We had a gas attack of pure chlorine to go through. It has a corrosive and burning action on the lungs. I resolved from that day onwards never to go without my mask."





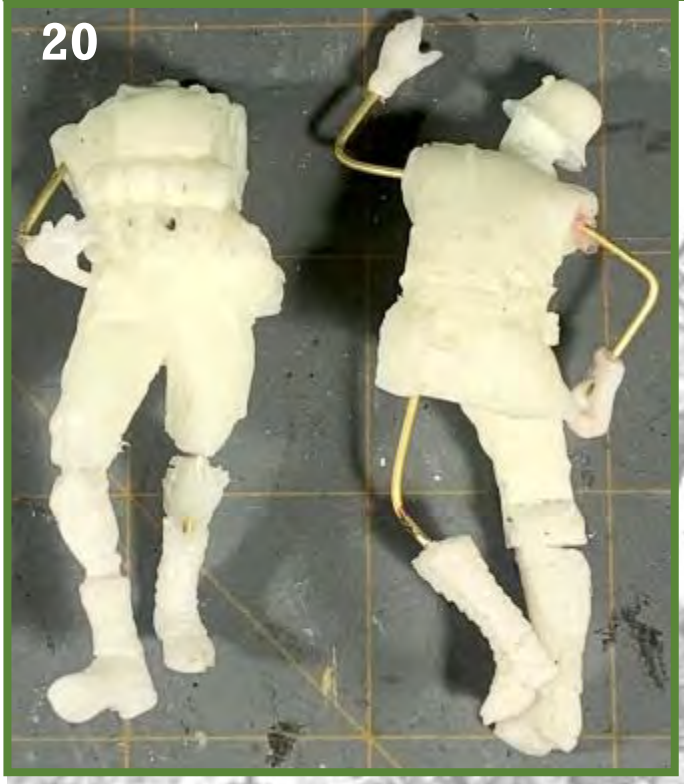


The figures after all assembly and detailing was complete. These show all the main changes, details, and additions. Some pieces, such as rifles and the machinegun magazine, can be removed for painting. Priming was next to find flaws. These were fixed, figures were reprimed, and painting followed my normal methods.





"...a battle was no longer an episode that spent itself in blood and fire; it was a condition of things that dug itself in remorselessly week after week and month after month. What was a man's life in this wilderness whose vapour was laden with the stench of thousands upon thousands of decaying bodies? Death lay in ambush for each one in every shell-hole, merciless, and making one merciless in turn."



20. Here we have the dead posed. While I will not go into casting methods in this work, I made simple one-sided molds of one of the Germans and the British Trench Raider. One-sided molds were sufficient as the figures would be on the ground, only requiring detail on the upward facing side. For the German, the helmeted head was attached with brass wire and turned to the desired position. The arms likewise are brass wire. Hands are from Figurinitaly's "1/24 Scale Hands Set #1" seen below. The Brit did not need a head or left arm as these will be buried. Both legs were reposed at the knees. The German's lower legs were replaced with copies of the Trench Raider's boots and puttees. The right leg was repositioned. The left leg was completely resculpted. Resculpting of arms and legs followed the process mentioned in Part I. The first layer of epoxy putty provided the bare form. These were then clothed with subsequent layers of putty, shaped as needed.







21. Additional needed details were also sculped. Trouser legs and jacket sleeves were made as stated above from Magic Sculpt. Clothing items were made from mixes of Kneadatite and Magic Sculpt. The bare legs of the highlander as well as the jacket pocket flaps were made from Kneadatite. Buttons are slices of styrene rod. Note the grenade bags on the German. To get the shape of the grenades under the cloth, I started by gluing styrene grenades (see page 116) in place first, and then adding the putty over these forms.

"It was a nerve-scourging spot. We dashed over the still war muscular bodies, displaying powerful knees below their kilts, or crept on over them. They were Highlanders, and the resistance we were meeting showed we had no cowards in front of us."

Sample Colors and Mixes Used!

As we have seen before, when painting uniforms, I usually slightly vary the colors of similar objects. Not only is this more visually pleasing, it more realistically depicts color differences between lots of material and differing amounts of fading and weathering.

KEY: Colors for each listed item are listed in the order they were applied. Base color is indicated by "B". Highlights and shadows are indicated by "L" or "S". "1L", for example would be the first highlight while "3S" would be the third shadow. Unless listed otherwise, colors used are Delta Ceramcoat. Andrea Colors are (A), Apple Barrel colors are indicated by (AB) and Folk Art by (FA). Game Air is (VG, Model Air is (VA), and Vallejo is (V). AK Interactive is (AK) and Scale 75 is (75). The figures were primed with a zenithal prime of overall Black followed by White from above to map out highlights and shadows.

!

Trousers 1 (Dead and Machinegunner):!
B: Dark Blue Grey (AB)/Charcoal
1L: Dark Blue Grey (AB)
2-4L: 1L + progressively more Khaki (AB)
1S: Charcoal/Burnt Umber
2S: 1S + Black
3S: Black

Trousers 2: (Officer)!
B: Dark Blue Grey (AB)
1L: B + Pale Blue Grey (VA)
2L: 1L + Pale Blue Grey (VA)
3L: 2L + Suede (for edging)
1S: B + Midnight Blue/Charcoal
2-3S: 1S + Progressively more Black

Trousers 3: (Rifleman)!
B: Elephant Grey (AB)/Burnt Umber
1-3L: B + progressively more Khaki (AB)
4L: Suede (for edging)
1S: Dark Blue Grey (AB)/Burnt Umber
2S: Charcoal
3S: Black

Trousers 4: (Grenadier)!
B: Medium Grey (FA)/Dark Blue Grey (AB)
1L: B + Dolphin Grey (AB)
2L: 1L + Country Grey (AB)
3L: 2L + Khaki (AB)
4L: 3L + Suede (for edging)
1S: B + Charcoal
2-3S: 1S + progressively more Black

Field Grey 1 (Dead and Rifleman):!
B: Field Grey 2 (75)
1-3L: B + progressively more Camo Highlights (75)
4L: 3L + Suede
5L: Suede (edging)
1S-4S: Progressively more Flat Black (75) added to the mix



Many of the colors used to make the various grey trousers.

Field Grey 2 (Officer's Cap and Grenadier):!
B: Field Grey (75)
1-3L: B + progressively more Camo Highlights (75)
4L: 3L + Suede (edging)
1S-42: Progressively more Flat Black (75) added to the mix

Field Grey 3 (Officer Tunic):!
B: Field Grey (75) + Light Grey (VA)
1-3L: B + progressively more Camo Highlights (75)
4-5L: 3L + progressively more Suede
1-4S: B + progressively more Flat Black (75)
!

Field Grey 4 (Machinegunner Tunic):!
B: Field Grey 2 (75) + Elephant Grey (AB)
1-4L: B + progressively more Khaki (AB)
1-4S: B + Progressively more Flat Black (75)
!

Piping:!
This was painted in various dark red colors highlighted using lighter reds

Puttees (Dead—the Grenadier was painted only slightly differently)!
B: Field Grey (75) + Elephant Grey (AB)
1L B + Territorial Beige (AB)
2-3L: 1L + progressively more Khaki (AB)
1-2S: B + progressively more Charcoal
3S: Black

Camouflage Helmet Colors!
Yellow: Dark Yellow (VA) highlighted by adding UK Light Stone (VA) and edged with UK Light Stone (VA)
Green: Cam Green (VA) highlighted by adding



Paints used to create helmet base colors.

"This was the home of the great god Pain, and for the first time I looked through a devilish chink into the depths of his realm. And fresh shells came down all the time."

Int Grey Green (VA) and edged with Int Grey Green (VA)
Brown: German Red Brown (VA) highlighted by adding Cam Brown (VA)
Chipping: As normal
Wash: Burnt Umber Oil Paint
Other Weathering: Dot Filters, Dirt, and Mud as seen on groundwork items

Field Grey Helmet!
Field Grey: German Green (VA)/Light Grey (VA) highlighted first with Light Grey (VA) and edged by adding Int Grey Green (VA) Other effects were done the same as the camouflaged helmets

Canvas/Hessian 1:!
B: Burnt Umber/Territorial Beige (AB)/ Elephant Grey (AB)
1L: B + Territorial Beige (AB)/Elephant Grey (AB)
2-4L: 1L + progressively more Khaki (AB). Last two levels applied in a cross-hatch to represent texture
5L: 4L + Antique White (edging)
1-2S: B + progressively more Burnt Umber/ Charcoal
3S: Black

Canvas/Hessian 2:!
B: Burnt Umber/Elephant Grey (AB)
1-3L: B + progressively more Khaki (AB). Last two levels applied in a cross-hatch to represent texture
4L: Suede (edging)
1S: Burnt Umber/Charcoal
2-3S: 1S + progressively more Black



Canteen Covers:!
These were painted in appropriate brown or grey -brown colors. To create a woolen texture, highlights and shades were stippled on"!‼

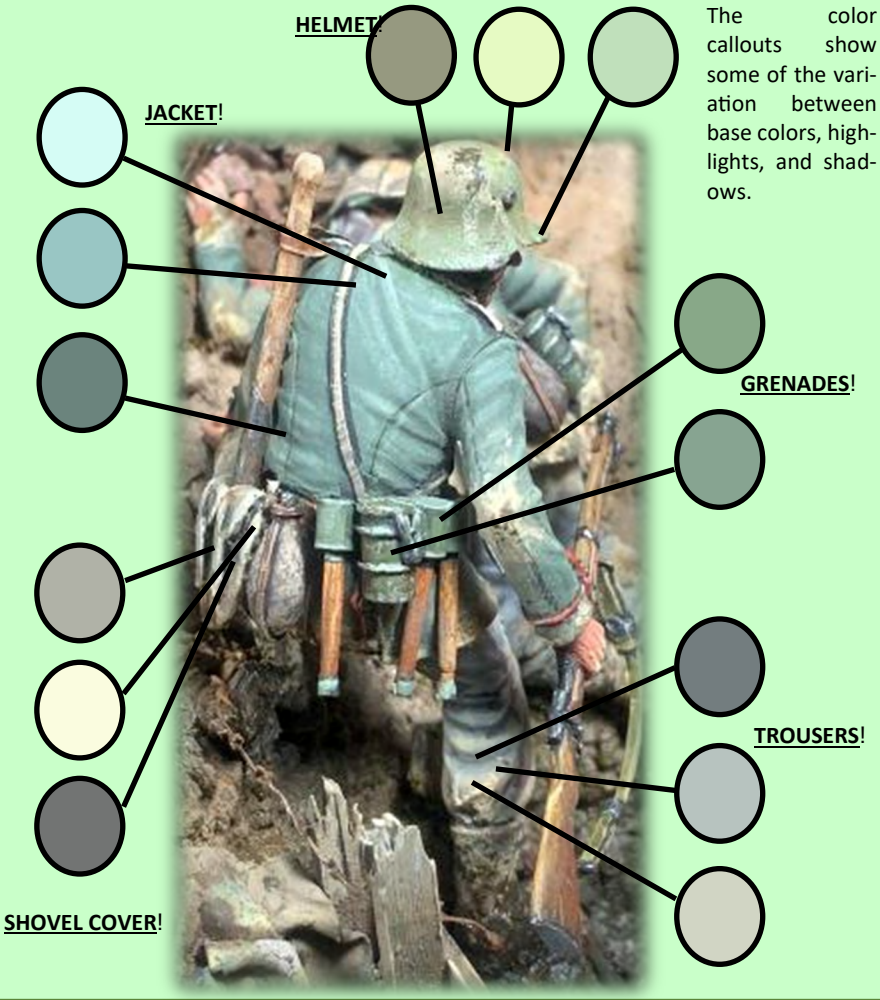
Other Painted Metal Items (Gas Mask Canisters and Filters, Grenade Heads, MG Cooling Jacket, etc):!
These were painted various similar base colors consisting of straight or mixed US Dark Green, German Green, Bronze Green, Dark Green and Medium Olive (all VA) highlighted and shaded appropriately.!
!

Other Items:!
These were painted using methods and color mixes similar to those we have used in previous segments.

Weathering:!
Weathering was fairly heavily applied using techniques seen in previous volumes.
Acrylic Paint: Applied in washes, glazes, and spots as needed

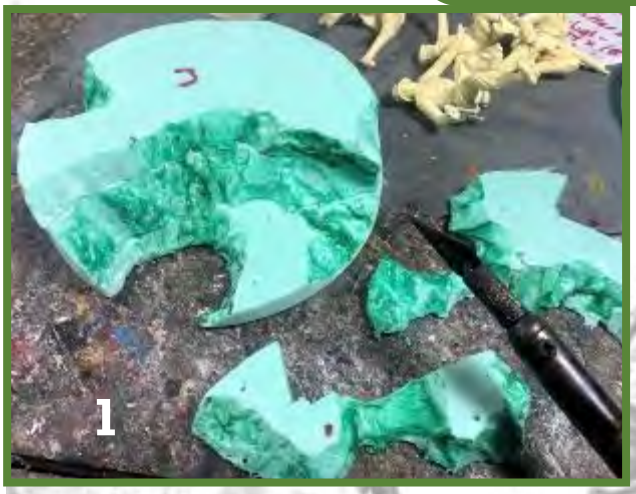
Oil Dot Filters: Dots were oil colors were applied where needed and gently blended into each other and surroundings.
Pigments: Applied as seen earlier in this volume (dry, wet, spattered, etc.)
Mud: Applied as previously seen using pigments, Vallejo Thick Mud and Future.





The color callouts show some of the variation between base colors, highlights, and shadows.

"The vast fields of shell-holes had been turned into a sea of mud by the heavy rain... On my zigzag course I passed many a lonely and forgotten corpse. Often only a head or rand projected from the hole whose circle of dirty water reflected them. Thousands sleep like that, without one token of love to mark the unknown grave ."





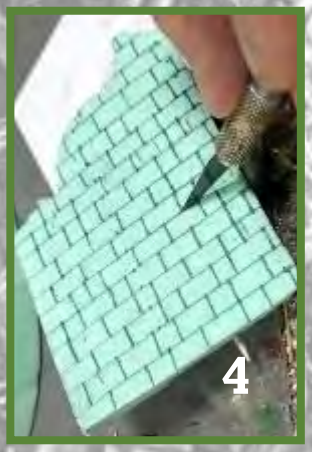






1. The basic ground and building forms were made of XPS foam, a material we have seen before. The ground was built in half inch layers, cut using a circle template on a hot wire table and then shaped with a hand-held hot wire cutter. Layers were glued together with Aleene's Tacky Glue. 2. While the foam is a great material with which to make ground forms, figures could not be securely pinned into it. Therefore, each figure mounting point was created by sinking a sharpened dowel rod down through the foam. In the photo at far left we see a rod being pushed into the foam. We can also see the cut-off ends of three other rods flush with the foam. Into these, holes will be drilled into which to fit the figure mounting pins. The rods protrude from the bottom of the base. These can be glued into holes drilled in the base.







3. The relatively random layout for the bricks was drawn onto the surface of the foam using a ball-point pen. 4. Using a new, sharp hobby knife blade, the lines were shallowly cut into the foam. 5. the lines were deepened and widened using the rounded end of my standard toothpick sculpting tool.

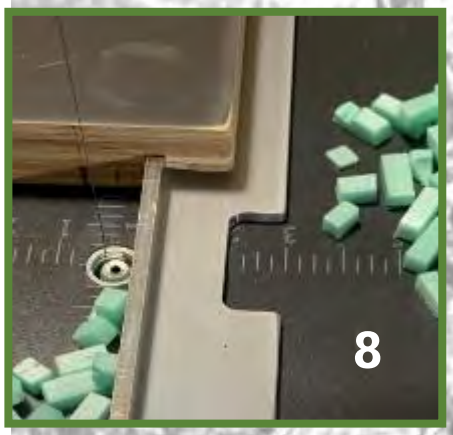
"Once seen, the landscape is an unforgettable one. In this neighborhood of villages, meadows, woods, and fields there was literally not a bush or a tiniest blade of grass to be seen. Every hand's breadth of ground had been churned up again and again; trees had been unrooted, smashed, and ground to touch-wood, the houses blown to bits and turned to dust; hills had been levelled and the arable land made a desert."

6. To vary the height and evenness of the bricks, some were pressed in—either overall or only along one side—using a flat chisel blade fitted into a large X-Acto handle. The result is seen at center. Several bullet and shrapnel gouges were cut into the foam using both a hobby knife blade and a Dremel triangular routing bit. **7.** A rough texture was impressed into the bricks using a wadded-up ball of aluminum foil.















8. Individual bricks for rubble were cut using the hot wire table. **9.** To add texture to these bricks, they were dumped into an old pill case and a couple rocks were added as seen at center. The case was shaken until the desired texture was imparted. This also serves to dull and round sharp edges. Just as I had done on the wall, damage was added using a sharp hobby knife blade. **10.** Several of the bricks were glued together to create larger bits of rubble as seen at right.





11. Fine sand was dumped over the wall and gently pressed into the various joints between the bricks. To fix the sand into place, right, the wall was "painted" with the same "Sand and Gravel Fixer" seen earlier. Once dry, the excess was brushed away.

"A more and more terrific barrage had to be put down before ten or twenty picked men, armed to the teeth, could make their occasional and exceedingly brief appearances in the opposing trenches. What the survivors brought back with them was the memory of a rapid and frantic glance into Vulcan's white hot cauldron." !

12. As a final step before sealing, priming, and painting, rubble heaps were build up both inside and outside the building. The basis of these was Sculpt-A-Mold with XPS foam and broken-up plaster bits glued in place. **13.** XPS foam can be attacked by some solvents and paints. Therefore, I seal foam parts by painting them with a mix of thin Mod Podge (for gluing crossword puzzles) and Black paint. I only applied this mix to the foam and plaster areas.

Several bits of detritus of battle were made to be added seemingly randomly to the terrain (many of these were already in place when I sealed the foam as seen in the photo above right). I say "seemingly" because while it should look random, everything was carefully placed.





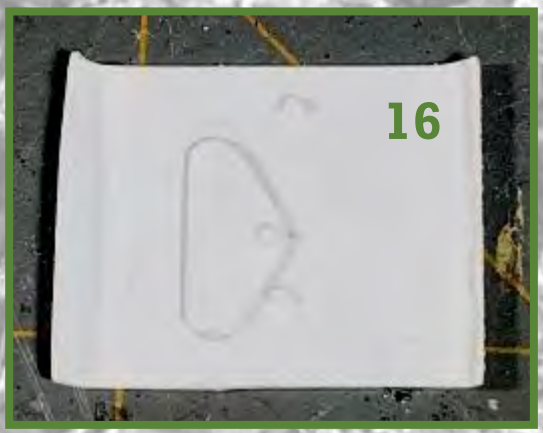




14. Boards and pieces of boards were made from styrene strip. Grain was added by dragging (not rolling) a Dremel sanding disk repeatedly across the surface. The coarser the grit, the rougher the grain. Additional scoring and damage was added using a hobby knife blade. **15.** Some of the boards were glued together to forms bits and pieces of blasted duckboard.

16. A discarded German machinegun shield was also made from styrene. An appropriately sized piece of sheet plastic was cut and bent into a rounded shape on the edges. Another piece formed the cover over the aperture. Finally, slices of styrene rod formed the various bolt heads.

17. Empty shell casings (mine were sized to represent British 18 pounder cases) were made by cutting proper diameter aluminum tubing to length and adding bases using sheet plastic punched out to the proper size. The primers were drilled out. Not shown, a couple discarded ration cans were made in a similar fashion. An old cup came from the parts box.



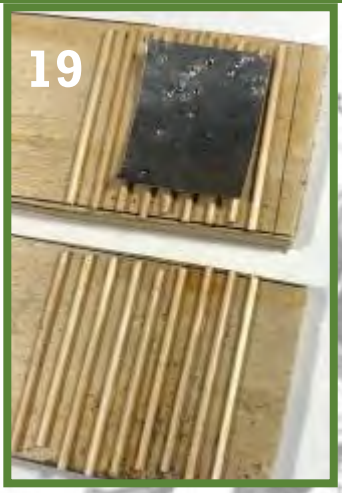


The pieces of corrugated metal in the scene was made from thick aluminum foil—cut from the lid of a frozen dinner. **18.** Prior to shaping, I added bullet and shrapnel holes and tears using various tools as seen. **19.** To shape the metal, I made a simple former using two lengths of wood with toothpicks glued in place. **20.** The metal was placed between the two pieces of the form and they were pressed together. This can be further bent or damaged as needed when placing in the scene.

"The turmoil of our feelings was called forth by rage, alcohol, and the thirst for blood as we stepped out... I was far in front of the company, followed by my batman and a man of one years service called Hakke, In my right hand I gripped my pistol, in my left a bamboo riding cane. I was boiling with a fury now utterly inconceivable to me. The overpowering desire to kill winged my feet. Rage squeezed bitter tears from my eyes."

18











Photos of the remains of trees in no-man's land and near the front often show them shattered, splintered, and scarred by shell fragments and bullets. **21.** I selected some suitable sticks from my collection (far left), and, using the same tools I used to damage the corrugated metal along with a small drill bit in my Dremel (to make bullet holes), I "shot-up" the pieces of tree as seen. **22.** I made sure to collect a pile of broken and splintered bits as seen below to add to the groundwork.





Barbed wire was made as seen back in the segment on our French Chauchat Gunner **23.** Pickets were made of bent wire as seen at left.

"A shell-hole strewn with bully-tins, broken weapons, fragments of uniform, and dud shells, with one or two bodies on its edge... this was the never-changing scene that surrounded each one of all these hundreds of thousands of men."



24. Forms for the sandbags were fashioned from XPS foam using a hot knife. Where the sandbags would be torn revealing their contents, the foam was "painted" with white glue and fine sand and gravel sprinkled on. Once cured, the bags were covered with epoxy putty and shaped as needed. **25.** In this photo of the back of the base adjacent to the building wall, note the portion of a trench wall that has been added. This includes corrugated metal and wooden forms. The sandbags are placed as is some shredded bag material made from rolled-out epoxy putty (my favorite mix of Magic Sculpt and Kneadatite). Additional sand and earth material has been put in place as needed. The trench depicts one that is destroyed and derelict, not longer used. It's now just another obstacle in no-man's land.



In addition to all the debris we have already made, the first step of creating the groundwork was to make and paint (at least in their basic colors) all the other needed rubble. Then all the debris and detritus was painted. This includes the dead brit as he will be partially buried (and thus a part of) the ground. While all these items will be their own appropriate colors, all will be corroded and stained with earth colors. Oils and pigments are major players in this process. The ground is a key player and, if not a focal point, a major source of visual interest. There is a LOT going on in the groundwork... the history of the war in this area is contained in it, so we must put the same care and quality of painting into these items as we do the figures themselves. !





26. Many loose clods of dirt will be on the ground resulting from artillery fire. To make these, I made several slightly different pre-colored Celluclay mixes with sand and gravel added in. These were placed on wax paper to cure, and, once dry, were broken up. **27.** To make brick rubble, I colored plaster in many different brick colors and spread it out on wax paper to cure. Once dry, it was cut into bricks and broken up into rubble.





28. To further color and weather the bricks, they were placed in a zip lock bag along with a wash of Brunt Umber oil paint and a small scoop of earth-colored pigments. After working the mix around, the brick rubble was dumped on wax paper to dry. The final result is seen at left—quite realistic in my opinion.

"One often hears the enemy at work on his wire. At once shot after shot is fired in the direction of the sounds, and not only because such are the orders, but because there's a certain satisfaction in it. We, too, take out wire parties nearly every night, and have many casualties doing it."













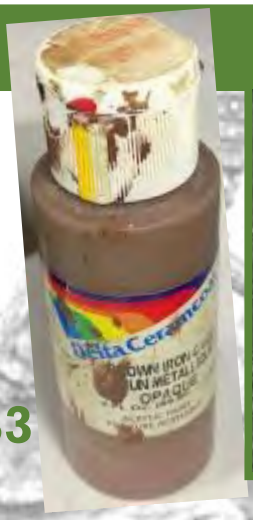


29. The XPS bricks (wall and rubble), were painted in various brick colors—similar to the ones used for the rubble. Highlighting and edging was added by mixing Khaki (AB) into each color. **30.** The wall (and the various trees and bits of wood) were given a wash of Burnt Umber oil Paint. A wash of Black oil was applied in shadow areas. **31.** To add more variation, staining, streaking, and general grunge I added oil dot filters. This technique is used to create many different effects including color variation weathering, and streaking. I used the oil colors seen. These were applied in dots mostly randomly. Darker colors were applied lower and in shadow areas, as were the greens to represent mosses. Lighter colors were applied higher. **32.** Then, using a brush moist (not wet) with Mineral Spirits, the dots were blended and streaked as desired.

The inside of the wall and the various bits of XPS brick rubble were painted using the same methods.

"I saw Wohlgemut lob the bomb along the ground in order to show himself as little as possible. It stopped in some weeds almost at the feet of the English, who clearly had noticed nothing. A few moments of intense expectation went by. Than a bang and a flash lit up the reeling figures. We sprang like tigers into the white cloud of smoke with the shout, 'You are prisoners!'".

33. To paint rusty metal (corrugated sheets, barbed wire, wire pickets, and other bits, I added (over Black primer) an appropriate rust color, Brown Iron Oxide in this instance. **34.** While still wet , various rust-colored pigments were stippled on. **35.** Finally, a dark wash of either Burnt Umber oil paint, Black oil paint, or a mix of two was added as desired. A close-up showing the realistic result that can be obtained (on the top of a wire picket) is seen below right. Note that this methods adds not only realistic colors, but also realistic textures.













36. We've already seen that the various stumps and wood bits were given oil paint washes. To finish, they were lightly dry-brushed, and then outlining (cracks and bullet holes) was done using Black and edging (tops of cracks, splintered edges, and around bullet holes) was done with appropriate light tan colors. Although the natural wood is already an appropriate color, I have found that if left natural while everything else is painted, it looks "wrong". This process provides some color variation, and the outlining/edging make detail pop.

37. Styrene wood must be painted. First individual boards were painted in slightly different wood colors. **38.** Next, they were lightly dry-brushed using lighter colors and then given darker washes of oil paint. **39.** To make detail "pop" outlining was done with Black and edging done with a light Khaki color. Note that the result is similar to the natural wood at left.



"The enemy crept up to the wire. Then one of them... made a slight-signal in order to silence the English machine-guns, and the whole party threw their last bombs and advanced on the trench. The men received them in such a masterful fashion that only one of them got into the trench. He ran straight through to the second line, and there, when he made no reply to summons to give himself up, he was shot. Only a lieutenant and a sergeant got through the wire. The officer, though he wore a steel shirt under his uniform, was accounted for by a bullet point-blank from Reinhardt's pistol that drove the whole steel plate into his body. The sergeant had both legs torn off by a bomb..."







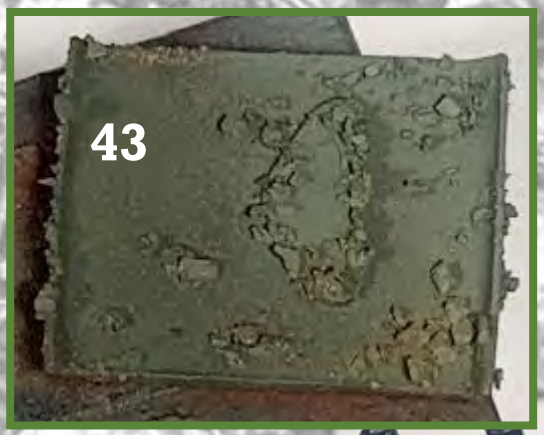


40. Some boards (below right) have remains of paint. I started by washing using a dark blue and then adding lighter blues using sponge stippling. **41.** As a final step, done on most bits of debris, I added earth and mud-colored pigments. These were sprinkled (or piled) on by picking up the pigment powder with a brush and depositing it where desired. The pigment was "fixed" in place by touching a brush loaded with Mineral Spirits to the edge and letting the liquid wick into the pigments. Once dry, damp areas were given a wash of Burnt Umber (or darker pigments) mixed with Future Floor polish. Examples of the realism that can be obtained with this method are the final duck boards and an enamel cup lying in the debris. The cup was painted using my normal methods. The dirt packed into the cup and sticking to the sides is all pigment powder.

41







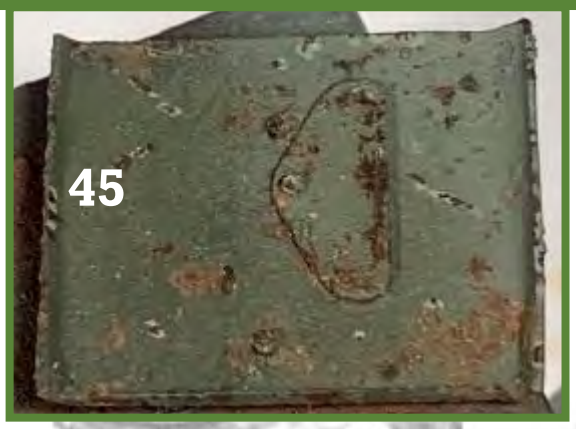
The old German machinegun shield was first painted as we have already seen using rust colors and pigments. Excess pigments were brushed away to leave a fairly smooth surface. This creates an underlying rust color that will show through the chipping. Chipping was done using the salt method.



42. The salt method easily makes random chips. Areas where I wanted chipping and flaking paint were "painted" with water and sea salt sprinkled on. I used sea salt due to the uneven sizes of the grains. **43.** Once dry, the shield was airbrushed in Vallejo Model Air colors. Working dark to light, I started with German Green plus Black Grey, then German Green, then Light Grey, and finally Light Grey plus Aged white.

"So I gave the command to follow me, and sprang out into the fire. ..When I had worked my way forward about a hundred meters, I looked about me. There was not a soul in sight… Finally, two men emerged from the clouds of dust and smoke. Then one more. Then another two. With these five men I safely arrived at my goal."





44. Once the salt was brushed away, this is the result. **45.** Additional chips were painted first using a very light color and then with a dark rust mix inside most of the chips. This is a "standard" method of chipping I usually use, and that we have seen earlier.

46. A Burnt Umber oil paint wash was applied as seen at far left. **47.** Finally, while this was still wet, pigments, both earth and rust-colored were put in place.

While this process may seem a lot of work for a minor detail, remember that the overall effect of our work is the sum of all these minor details!











48. Old shell casings were first painted in a dark brass color. Working dark to light, colors used were a mix of Van Dyke Brown (FA) and Antique Bronze (L), followed by Antique Bronze (L), and finally some high highlights and scratches were added using Brass (V). As with other debris, this was followed by a dark oil paint wash and the application of pigments.

"...I went through the trench to take stock of the damage and ascertain what men I had left. As the count of fifteen men was not enough for holding the trench, I left the defense of the block to Mohrmann and three men, and withdrew the remainder to a giant shell hole behind our line and had all the available bombs collected there. My plan was to let the enemy, if they attacked, enter our trench unopposed and then at a signal blow them to bits from above."





49. Cloth items such as the various tarps and sandbag pieces, as well as the sandbags themselves, were painted and weathered using my normal cloth methods. Heavy build-up of dirt and mud was done using oil paints and pigments.

That completed all the various bits of debris. Not all found their way into the diorama, but at least I had plenty to chose from when fleshing out details.



50. Most of the pigments colors used in the creation of the diorama. While these are not the only colors, they account for about 90-95% of all those used. Some, such as the three on top, are commercially available pigment powders. The colors in the plastic case are ground pastel chalks. The chalks were rubbed on coarse sandpaper and the resulting powder dumped in the bins. These are nearly as effective and much cheaper than the commercial varieties. Just be sure NOT to use the oil-based chalk variety - they will not work.

The next "figure" painted was the skeletal Frenchman. **51.** The helmet was painted essentially the same way as was the German MG shield. **52.** Bone was painted dark to light using the colors shown—Burnt Umber, Khaki (AB), and Suede (My Studio). Over the Black Primer, mixes were Burnt Umber, Burnt Umber plus Khaki, Khaki, Khaki plus Suede, and Suede. The cloth remains were painted in my normal manner except that earth tones were mixed into each color. The worn leather gear was painted using my normal leather methods.







"There is a little mechanical click as the safety-catch of your pistol is taken off; the sound cuts straight through your nerves. Your teeth are grinding on the fuse-pin of the hand-grenade. The encounter will be short and murderous. You tremble with two contradictory impulses: the heightened awareness of the huntsmen, and the terror of the quarry. You are a world to yourself, saturated with the appalling aura of the savage landscape."





53. A wash of Burnt Umber oil paint was next applied to all bone, cloth and leather areas. **54.** Finally, earth and mud-colored pigments were added. Wetness was created using a mix of very dark pigments plus Future Floor Polish or straight Future. Although the placement of the remains is in a very visually strong position in the front right of the composition, the muted colors, the fact it is partially buried, and its placement at the lowest point (other than the water surface), will serve to keep its impact muted. It will, in a very true sense, simply be another piece of debris in the groundwork—but will still be something the viewer will see if they take a close look at the scene.

With all the debris and detritus painted (included the dead Brit—see later segments for sample British uniform colors), the groundwork was created and painted. .

Not shown, the dead highlander, corrugated iron pieces, and most wire pickets were glued (using two-part epoxy) into place in the XPS foam prior to adding the ground material. Also not shown, the foam ground forms were glued onto the wooden base using two-part epoxy prior to the ground being made. This was done as the wooden base itself will also form part of the groundwork, specifically, the surface of the water.





55 Ground was my normal mix of Celluclay, white glue, acrylic paint to pre-color the mix, and water. In this instance, to help depict torn-up ground, I added sand and fine gravel, bits of the pre-made brick rubble and wood pieces, small bits of tree root, and some pigment powders. **56.** As I wanted ground that ranged from wet mud to dry dirt, I made three separate mixes of the Celluclay material, each a different color. Clear gloss was mixed into the darkest mixture to help depict dampness.

"The village of Guillemont was distinguished from the landscape around it only because the shell-holes there were of a whiter color by reason of the houses which had been ground to powder. Guillemont railway station lay in front of us. It was smashed to bits like a child's plaything. Delville wood, reduced to matchwood, was further behind."





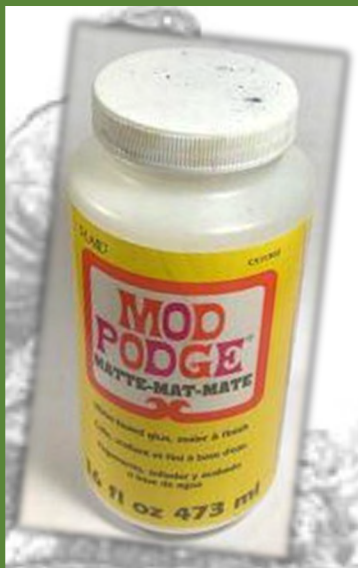




57. Ground material was added first around the dead highlander, some packed fairly densely, other material only loosely put in place. **58.** When placing the mixture on the base, ensure the holes for the figure mounting pins are protected—I put paperclip wire in them to prevent them becoming clogged. Then, starting at the bottom (dark and muddy), I worked my way to the top, getting progressively lighter as needed. **59.** Where colors met, I mixed them together on the base using a stiff flat brush to soften transitions from one color to another. **60.** With the basic ground mix applied, I temporarily placed the figures in position in order to place the various bits of debris and wire around them. This ensured these items did not interfere with fit. The placement of all these items was done while the ground mixture was still wet so that the ground could continue to be worked and shaped as needed. Celluclay takes a significant amount of time to dry thoroughly, and—if needed—adding in a bit of water can extend drying time.

"Around us in heaped-up mounds of earth lay the bodies of fallen comrades. On every foot's-breadth a drama has been enacted. Behind every traverse fate lay in ambush, day and night, to snatch a victim. And yet all us felt a strong attachment to our sector and had almost grown to be a part of it."





61. Next, I added the pre-made dirt clods and brick rubble created earlier. These were either pressed into the ground or glued loosely on the surface using the Mod Podge white glue shown. **62.** Where additional gravel, rubble, or wood debris was needed, a thin mixture of ModPodge was brushed on he surface. **63.** The debris was placed and pressed gently into the glue. **64.** Next, I placed the skeleton, pressing and gluing it into the ground mix and adjusting the earth around it as needed. This, and most of the debris, was glued using two-part epoxy. **65.** Other bits, such as the MG shield shown here, shell cases, ration tins, the cup, and duckboards were added—being placed on the surface or partially buried in the still soft ground mixture as desired. **66.** The wire picket that goes into the water was glued into a hold drilled in the wooden base.



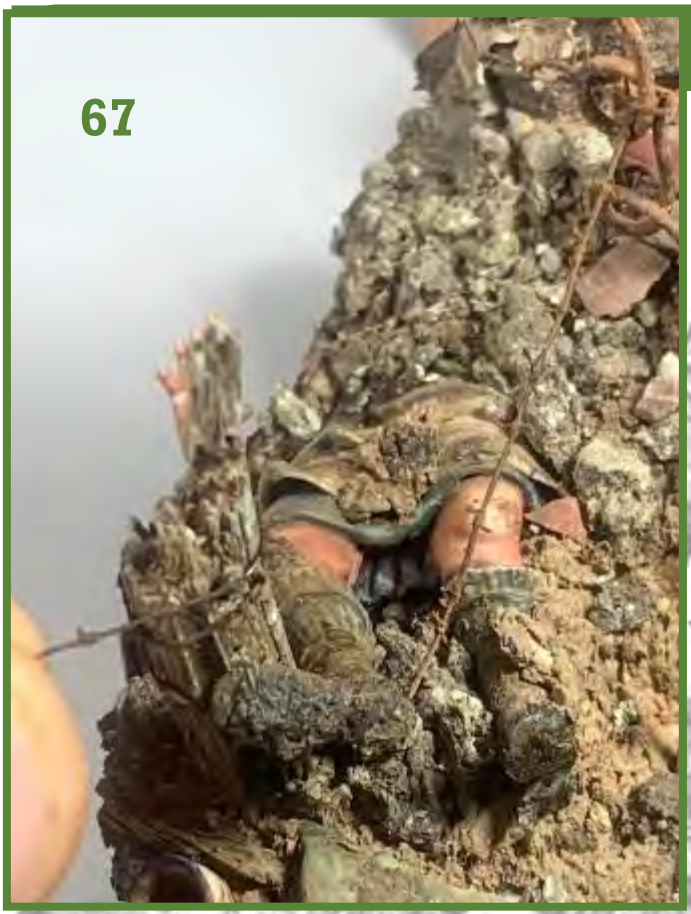








"Leaving out trifles such as ricochets and grazes, I was hit at least fourteen times, these being five bullets, two shell splinters, one shrapnel ball, four hand grenade splinters, and two bullet splinters, which, with entry and exit wounds, left me an even twenty scars... I felt every justification, therefore, in donning the gold wound badge, which arrived for me one day."





67. Wire was next, again beginning in the area containing the dead highlander. I started by running a line from a picket, underneath his raised leg and then around the stump. I kept pressure on the wire while gluing it to make sure it was taut, giving the leg a sense of weight. Some additional wire was wrapped around his hand and placed in the heap of dirt he is buried under. Wire was placed through and around other pickets. **68.** Where the wire goes into and out of the water, small holes were drilled in the surface and the wire glued in place. Once all the wire was installed, any needed touch-ups from where the pre-painted wire was damaged while cutting and bending was accomplished with light-colored rust paint and rusty pigments.





69. With the debris added, the figures were removed and the protective pins were put back in their mounting holes. The ground was allowed to thoroughly cure prior to further painting.

"Trench fighting is the bloodiest, wildest, most brutal of all ... Of all the war's exciting moments none is so powerful as the meeting of two storm troop leaders between narrow trench walls. There's no mercy there, no going back, the blood speaks from a shrill cry of recognition that tears itself from one's breast like a nightmare."









70. I started painting by lightly dry-brushing the ground with appropriate acrylic colors as shown. I worked from dark to light, adding progressively lighter colors. Muddy colors were used in wet areas and dusty dirt colors in other areas. Brick colors were used around the ruined building. This was done with a soft, flat brush. I find make-up applicator brushes purchased in the beauty isle of the drug store to be perfect for this. **71.** Next, depth and variation were added using washes of oil colors. Colors are as shown I used oils as they will not soften the ground mix or blend with the dry-brushed acrylics. Blues and Blacks were used in shadow areas, browns in muddy areas, and Ochres and Greys in other places. They were applied using an old number 2 round brush with a ruined point.





Pigment application began by trying the AK Liquid Pigments. **72.** I applied these with a brush in the appropriate areas. **73.** I also found regular powdered pigments or ground pastel chalks can be mixed with these to thicken them as we see in these palette wells. These thicker pigments can be applied with a brush or, as we shall see in a bit, can be spattered on. These would also be useful for applying rust over an appropriate base color.

"The houses were now burnt and shot to bits. The waste gardens were churned up by shells and the fruit trees split and riven. The wilderness of stone had been adapted for defense by trenches, barbed wire, barricades, and concrete emplacements"

Commercially Available Weathering and Groundwork Products!

There are a multitude of products you can use to get almost any effect you desire. I've got nothing against these products, and they generally perform as advertised, but I don't use them often. I've found I can get the same effects, often with more control and much cheaper using standard acrylic or oil paints, pigments, and the appropriate thinner (either Isopropyl Alcohol or Mineral Spirits). On this page are a few products I've purchased and tried out of curiosity. All were used at some point for the projects in this work. Their only advantage is that they are ready-made, offering quickness and convenience. If that's your thing, and you have the inclination and extra cash (many of these are relatively pricey—two or three times what you would pay for a bottle of paint), knock yourself out. As for me, there is only one of these products I will likely replenish when I run out. Read on to which one I absolutely love! !



AK has a range of liquid pigments. Two colors I used on this ground are seen at left. These are an enamel product, so they cannot be mixed with acrylics. They could however, be mixed with oils. Use Mineral Spirits for thinning or clean-up. As the name suggests, these are simply pigments suspended in thinner. They apply with a brush like a spotty wash and dry to the appearance of regular pigments. If desired, you can mix in more dry pigments to alter the thickness or color of the product. This project was my first time using these, and—while I liked them—you could easily make a similar, if not identical, product by mixing pigments into Mineral Spirits.



Here are two colors of "Thick Mud" by Vallejo. These are acrylic pastes that really have the consistency of mud. They even dry with a somewhat eggshell, muddy-looking finish. I have used this product often. It is my go-to, favorite mud product. I will certainly buy more of these when needed.



At left are two mossy, slimy products—an acrylic "Slimy Grime Dark" by Vallejo and an enamel "Moss Deposits" by AK. I use the Vallejo product occasionally, but honestly, I prefer oil paint and Mineral Spirits to the moss mixture from AK—I have much more control over color and thickness. I like that the grime product as I prefer acrylics. Still, the Grime mix is more of a glaze or a wash than a point, and while it works fine, the problem (my opinion only) with commercial washes and glazes is that you are paying for mostly thinner. I prefer to mix my own. I do really like the color, though.

At near right, we see Vallejo's "Wet Effects", an acrylic product. This makes a nice, slightly greenish, wet effect. It's kind of like Future Floor Polish with a tiny bit of paint mixed in.

At far right we see one color of AK's "Spatter Effects". As the name suggests, this is a pre-made product to use for adding mud spatters. It's got a great texture for creating mud splash effects by stippling or spattering on a surface. It's like a thinner version of Vallejo's "Thick Mud". Being acrylic, it can be mixed with acrylic paints or powdered pigments to alter the effect. A similar mix could probably be made by mixing a small amount of plaster with a bit of paint and/or pigments and water. Slightly thinning the Vallejo "Thick Mud" product would also yield a similar result. This, and the AK "Moss Deposits" above, are the only two products on this page I did not use on the groundwork of this diorama. Still, for the spatter effects I created on this piece, this product would have worked just fine.



"We tried several times to work our way forward by crawling flattened out over the bodies of the Highlanders across the undue part, but we were driven back every time by machine-gun fire and rifle-grenades."

74. Next, standard dry pigments were brushed on as needed to help create dusty, dirty surfaces. Like dry-brushing, I use a soft, flat make-up brush to apply these. **75.** To create heaps and clumps of the pigments, they are piled or dumped onto the desired areas using a putty spoon, brush, or other appropriate tool. Here we see both dark and light pigments deposited with a putty spoon. To fix, or lock, these pigments in place, place a brush loaded with fixer by them and let the liquid wick into the pigments. Once dry, they will be solid. I use either Isopropyl Alcohol or Mineral Spirits as fixer.









76. Pigments can also be used to create mud spatters and splashes. I used the AK Liquid Pigments with additional pigments added to thicken them (as seen on page 138). A brush full is picked up and flicked onto the desired surface. You can also blast the loaded brush with an airbrush (no paint—just air) to spatter the paint on the surface. Whichever method you use, I recommend practice first so you become proficient at spatter where you desire rather than willy-nilly all over creation. The result is seen on mud spattered duckboards.





The result of all these pigment applications can be seen at left. Wet, dry, heaped, and spattered pigments are visible in both photos. The pigments applied over the painted surface help give our ground a realistic scale texture and nearly infinite color variations.

"Although the English had prepared for this minor attack... by numerous trench mortar bombardments and gas attacks, they succeeded in taking only one wounded man prisoner, and they left a number of dead in front of our wire. Certainly, our losses also were considerable."













77. Mud mixes were made using pigments mixed with Future Floor Polish for a wet look as seen before. These can be mixed thin or thick. These mixes can be stippled, brushed, heaped, washed, or spattered on as desired. **78.** Once happy with this mud, additional mud, in different colors with somewhat different textures, was applied using Vallejo "Thick Mud". **79.** Vallejo "Slimy Grime Dark" was added around the water's edge. **80.** Once everything dried, additional wetness was added as desired using the Vallejo "Wet Effects" and/or Future Floor Polish. **81.** The last groundwork task was the water surface. I used the top of the base for this, and it is possible to paint a flat, smooth surface in a realistic fashion with the appearance of depth. I started by painting the surface in appropriate muddy water colors. Drying time extender was added to the acrylic colors to allow me to wet-blend them on the base **82.** A coat of clear gloss paint, slightly tinted with Vallejo "Slimy Grime Dark" was painted onto the surface to give a slight sense of depth.





83. While this was still wet, I added a couple drops of Brown and Chestnut colored inks. These were not mixed in, but rather were allowed to just leach into the gloss and blend at the edges to give a varied surface color and add the impression of "gunk" floating in the muck. **84.** Several additional layers of the grime-tinted Future and inks were added. Finally, a couple cotes of Straight Future gave a high-gloss wet look to the surface. With that, the groundwork was complete. Details photos of the Allied dead can be seen below and on the next page. Note the ultra-realism that can be obtained using these varied materials, mediums, and methods.





"With weeping eyes, I stumbled back to the Vaux woods, plunging from one crater into the next, as I was unable to see anything through the misted visor of my gas mask. With the extent and inhospitableness of its spaces, it was a night of eerie solitude. Each time I blundered into sentries or troops who had lost their way, I had the icy sensation of conversing not with people, but with demons. We were all roving around in an enormous dump somewhere off the edge of the charted world."

Ernst Jünger:

A noted writer, Jünger's most famous work is his WW1 memoir, "The Storm of Steel", originally published in 1920. Revised often during his life, the original is still the best (politics found their way into later editions). Many of my modeling choices were based on this book.

Jünger (1895-1998) was the eldest of six children. In 1913, he illegally joined the French Foreign Legion. He deserted, but was recaptured. His father used his influence to get him released from the Legion and to avoid prosecution.

After the outbreak of WW1, he enlisted in the German Army. In 1915, he was commissioned a 2nd Lieutenant, and gained a reputation for his combat exploits in offensive patrolling and reconnaissance. Promoted Captain in 1917, he survived the war, although he was wounded many times. He was awarded the Wound Badge First Class, the Iron Cross First Class, and the House Order of Hohenzollern. He also earned the Pour Le Merit - Germany's highest military decoration - a rare decoration for one of his rank. Of the 700 awarded during the war, only 11 were given to infantry company officers.

He remained in the army until 1923. Married in 1925, he had two children. He disliked the Weimar Republic, writing against liberal values and democracy, and even called for the creation of an activist society run by warrior/worker scholars. Nor was he a fan of the Nazis—rejecting their offers of a seat in the Reichstag or to head the German Academy of Literature. During the Second World War he rejoined the army, and as a Captain was awarded the Iron Cross Second Class in the opening phases. His writings were an inspiration to anti-Nazi conservatives, and he was dismissed from the army in 1944 after being indirectly implicated in the plot to kill Hitler. His son was killed in action while serving in a penal battalion to which he had been sentenced for political reasons.

After the war, he was treated with suspicion because he refused to submit to denazification procedures (claiming he had never been a Nazi). His philosophical writings were held in high regard in mainstream German circles, but being an ardent militarist, he was criticized because he glorified war as a transcendental experience. He died, aged 102, as the last living recipient of the Pour le Merit.





"By this time there was not a man who did not know that we were on a precipitous descent... Every man knew that victory could no longer be ours. But the enemy should know that he fought against men of honor."

GAMECHANGERS and EYEOPENERS!



Andrei! Koribanics! "Eye Deep! In Hell"!

"Gamechangers" are events that change the hobby for us. Maybe it was a piece we saw or feedback received from other modelers on our work. They are anything that "clicks" and changes our way of modeling, epiphanies that bring new insight or understanding to a process, a realization you are doing things the "hard way", or simply something that causes an "attitude adjustment" that alters the way you approach the hobby. They are anything than opens your eyes!

Shep Paine had a huge influence on my methods and mindset. But for me, he was more of a "gamestarter" than a "gamechanger"... although I initially misunderstood his mention of oil paints. Middle School me didn't understand there was a difference between these and the Testors or Humbrol model enamels available at local stores. The later realization that mediums other than these "model" paints could be used, especially acrylics, was certainly a gamechanger.

Speaking of acrylics… For the first years of my "acrylic era", I poo-pooed pigments and stayed away from oils. I didn't understand why inks were a thing. When I first decided to try these mediums, it was quite an eye-opener. Each is unique in what they can do and what they provide. Very few, if any, works herein use just one medium. This realization was certainly a gamechanger that really upped my game. As evidence, I present the groundwork of "Storm of Steel"—painted with acrylics, oils, pigments, pastel chalks, and enamels.

Some of my biggest "gamechangers" have been in the sculpting realm. When the "light bulb" came on that one did not need to recreate an item exactly, but rather only the look of the item, sculpting became <u>much</u> easier. This happened when I was trying to recreate puttees by wrapping the leg with different materials. Nothing was satisfying. But then I tried just adding putty and working it into the shape of puttees… viola! This maxim is doubly true for buckles—trying to make an actual buckle is a royal pain in the keester, but shaping a small blob of putty into the appearance of a buckle is quite easy! Unless you want a working model, how something is actually made or operates is totally irrelevant—only the look matters! Train yourself to break a task down into basic shapes and then make those. That's much easier than tackling a complex form as a whole.

Attend shows whenever you can. My first show was probably my biggest "gamechanger". Photos can't do justice to the great works… they can't capture the subtlety and nuance. I didn't realized how much I sucked until I saw, in person, greatness. Just seeing and studying the work on the tables helped me improve to the point that within a little over two and half years I earned my first gold medal. But simply seeing didn't account for all the improvement. A lot came from seeking honest feedback from those I looked up to. When asking for feedback, turn on your listening ears. We all dislike criticism, but don't argue or rationalize. Listen and learn, and see your work through other's eyes—you own are often blind to your failings. Try their recommendations. Much of what you learn will indeed be game changing.

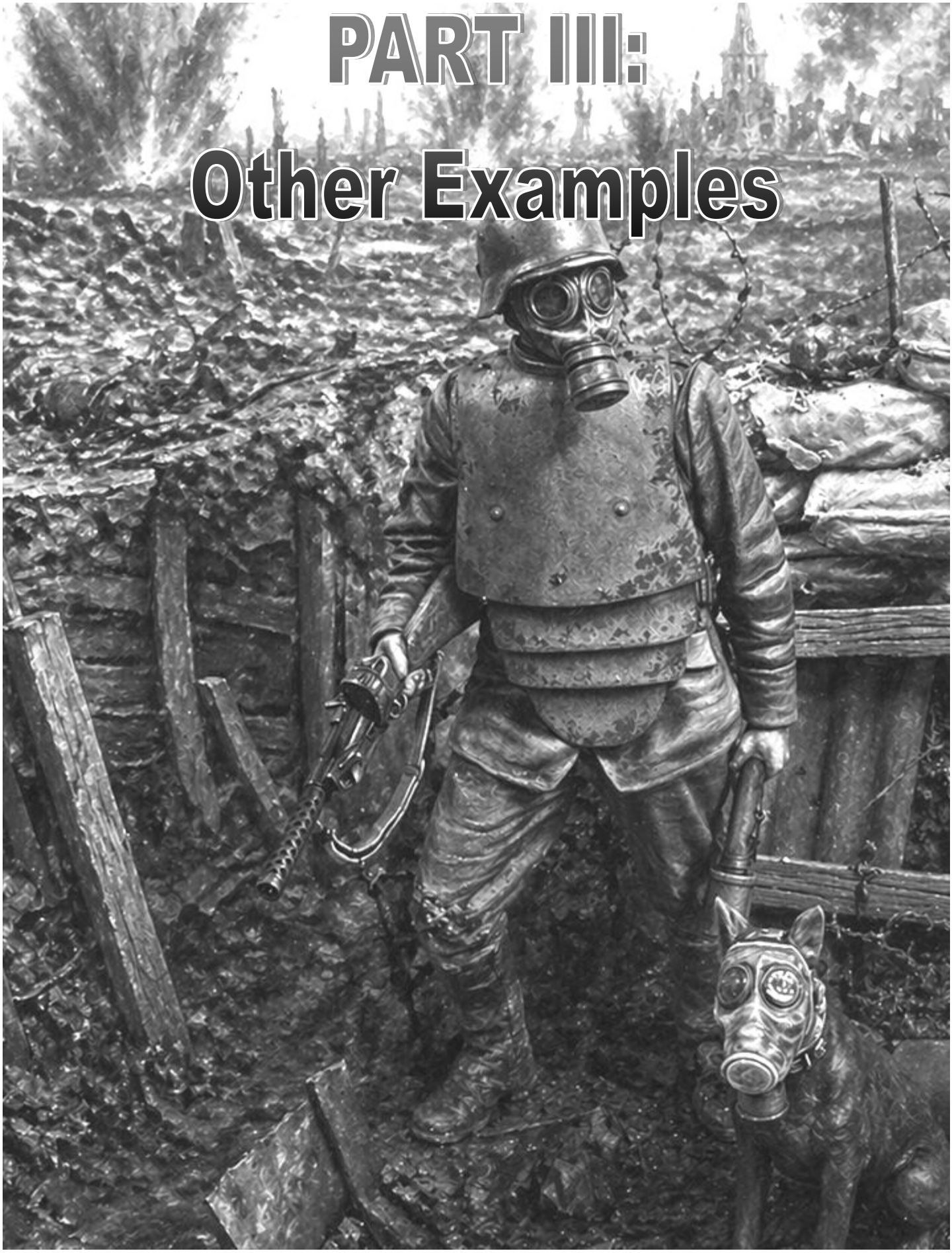
Andrei Koribanics's piece "Eye Deep in Hell" (photo from "Internet Modeler") is an original sculpt in 54mm. Seeing this piece in person was a "gamechanger" for me and remains, perhaps, my all-time favorite. Its influence can be seen in the "Storm of Steel" and "Stormtrooper" pieces in this work. Andrei once wrote, "In each of my pieces I try to include what I like to think of as a 'a little magic'… something unexpected that catches the viewer's eye or makes someone say 'how the hell did they do that?'". In this case, it's the skeleton he added. That quote has stayed with me over the years, and I've adopted that philosophy in many of my vignettes and dioramas.

I often saw Andrei at the old NJHMA "Jersey Show" and the MFCA's "Valley Forge" show. I even had the privilege of judging with him one year at the Jersey Show… and that time spent getting his insights and seeing the pieces on display from his perspective was quite eye-opening. Once, I attended a sculpting seminar he conducted. I still have (and refer to) the handout he provided. He passed in 2014—a great loss to the hobby world and great man gone too soon.

Perhaps my favorite aspects of modeling is story telling. People like Andrei, the late Shep Paine, and Bill Horan (the best in the world, in my opinion, at telling a story, even with a single figure…) have had a massive influence on me. When it comes to feedback on my work, Greg DiFranco (a World Master) has always been very forthcoming and helpful. What can I say… go to shows and seek feedback—it'll be an "eye-opening" "gamechanger"! Your work WILL improve.

PART III:

Other Examples



UHLAN 1914

Assembly, Painting, Groundwork

!!!!I picked this figure up when it first became available at the 2025 Long Island Show. Originally 3D printed, Paul of Model Cellar cleaned up the print and then cast it in resin. It is available in both 75 and 90mm. I love the proud, arrogant pose. !

The kit includes nine resin pieces. The figure is cast in six: figure; head; 2 arms; pistol holster; and helmet crest. The stone step base is cast in three: steps; wall; and ornament. !

When I painted the piece, there was as yet no box art, and no painting instructions are included, so I was left with my own research. The figure wears the field service uniform (NOT the more colorful dress uniform), and the shoulder boards are those of a 2nd Lieutenant. The shoulder boards also include small numeral ^ï regimental numbers. As there are no lutzen bars on the collar or cuffs, he represents the 3rd Uhlan Regiment and NOT the 3rd Guards Uhlan Regiment. My research, therefore, indicates piping on this Prussian unit should be yellow and buttons brass. There is now box art—this piece (minus the added cuff buttons—as they are not included in the kit). !

There are opportunities for easy conversions. By removing the hip pockets and replacing the shoulder boards, you could create the more colorful dress uniform. By removing the ^ï (and adding or painting a different number), different regimental piping and button colors could be created. !

This figure was painted using largely the same methods seen previously. The lack of weathering is similar to our earlier Dragoon Officer. Here we look at painting some unique features and take a deep dive into painting the stone steps. Unlike our Dragoon officer, there is no texture on these—they are molded smooth. Therefore, granite texture was painted on. We [l see how. I am very pleased with the result. !



German Uhlans in WW1

!

Earlier, we saw some illustrations of Dragoons in action. Here we see Uhlans. At the start of war, some cavalry types—such as Uhlans and Hussars—wore field grey versions of their distinctive uniforms as seen on this page. However, later in the war after the model 1915 uniform was issued, these distinctions disappeared.

!

Right: A mounted trooper, armed with lance and slung carbine. !

!

Middle Right: Two dismounted Uhlans doing duty in early slit trenches. As the war progressed, most German cavalry—at least on the Western Front, were dismounted and used as infantry, wearing normal infantry uniform and equipment—although they did keep their special regimental titles and distinctions. !





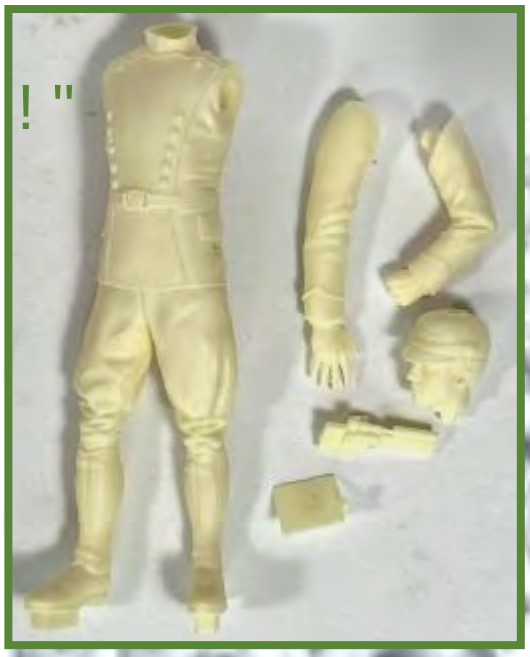




Above: Uhlans at Liege in the first days of the war. Wire was a very effective barrier against horses. This is a Fortunino Matania illustration. !

!

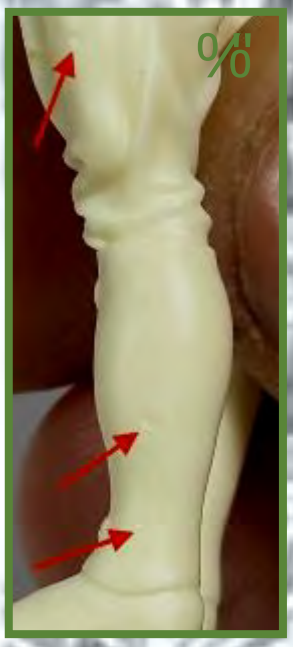
Bottom left: Uhlans being engaged by—and fleeing from—Belgian armored cars. In this illustration, the new technology of motor vehicles and machine guns is clearly winning over the old technology of horse and lance. This would certainly make for an interesting diorama! I have another idea filed away for possible future reference! !





! -2. Here are the parts and pieces included in the kit. 3. We know he wears the field service uniform as the dress uniform did not have the hip pockets. The belt could be leather, but it also could be the officer § brocade belt. I chose this—in Prussian colors (the regiment was Prussian)—primarily for visual interest. 3. Here, we can see the small pins of the 3rd Regiment on the officer § shoulder boards. We know he is a 2nd Lieutenant as there are no pips on the boards: one would be a 1st Lieutenant and two a captain. !









4. The pitfall of casting a 3D print in resin: The resin casting faithfully reproduces the tiny pits left over from removing the 3D printing supports. There were only a few of these, and they were easily taken care of. 5. When removing mold part lines, use care. What appears to be a mold part line here is actually a seam that was present on the real jacket. 6. Painting followed the same process and colors seen previously. This photo clearly shows the slight color difference between Scale Ó ñ [Field Grey (used on the jacket) and Field Grey 2 (used on the trousers). !

7-8. The belt was first painted white (starting with light blue"grey and working up to white). The final highlight was added as vertical lines for woven texture. After the white, black (very dark grey) lines were painted using a fine brush. !









9-10. The figure's face was painted as seen before. No 5 o'clock shadow was added. I wanted him to look young, clean, and smooth shaven. **11.** Leather was painted again using the same colors and method. As I wanted the boots to be clean and newer (at least not as worn), not much wear was added. !

!

11. Turning to the stones, the base color was a warm mix of Pavement and Barn Red. !











12-15. The first several highlights were added using pieces of packing sponge for texture. I loosely mixed each highlight/texture colors, leaving some color only partially mixed so that the application would have some natural variation. Then, a bit of sponge held with tweezers was dipped lightly into the paint. Excess was blotted off on a piece of index card, and then it was dotted onto the model. **16.** The first layer added Elephant Grey and Territorial Beige to the mix and was applied overall fairly heavily. **17.** Each subsequent layer was applied both lighter and lighter and also covered less area. The 2nd light added more Elephant Grey and Territorial Beige to the first light. The third light added more of these colors as well as Granite Grey. !

18. The fourth light added Granite Grey and Khaki. The fifth light added more of these colors. By now, most sponging was confined to highlight areas. The sixth application was Granite Grey and Grey Blue. The seventh layer added Suede. !









!* "



!! ,!* "

19. I transitioned to a brush to apply paint more exactly to the highest highlight areas and edging. Again, I used dots of color rather than lines. The eighth application was the same as the seventh with Antique White added. The final application added more antique white. **20.** Shading was applied using "Dark Brown Filer for Nato and Green _ Ian enamel product from AK seen earlier in our 11th Dragoon segment. In some of the deepest shadows, the enamel "Dark Brown Wash _was also applied. **21.** For some mossy areas, "Slimy Grime Dark _was glazed on, and, while this was still wet, some green pigments were stippled on. After drying, the excess was brushed off. **22.** Cobblestones were painted as we saw earlier with our 11th Dragoon officer—only I did not dirty them up quite as much nor add the grit between the stones. !



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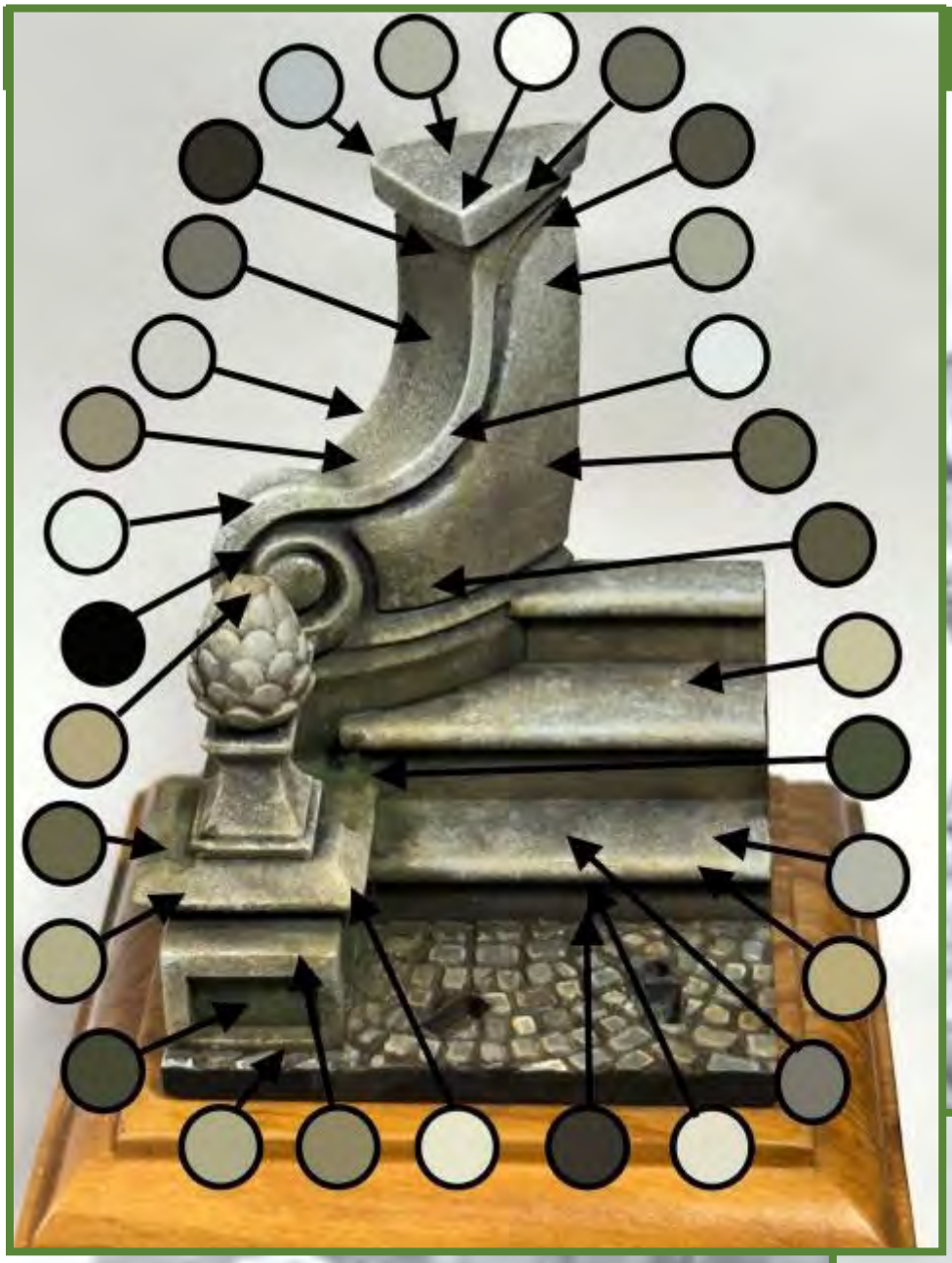


At left we see the final groundwork. I believe the color variation and texture provided by this method resulted in a very realistic effect. I've placed some color call" outs on the photo to give an example of the range of color this method provides. !







WW1 BRITISH TRENCH RAIDER

Assembly, Detailing, Painting, Groundwork





!!!!The 'WW1 British Trench Raider _from Model Cellar is well detailed, engineered, and cast with a natural, relaxed pose. The figure consists of six pieces: torso with legs, head with helmet, two arms, both hands with club; and a section of duckboards. He wears bomber ß web gear over a Dayfield Body Shield—a 'hard _armor that featured metal plates within a canvas vest. Advertised as 'absolutely bayonet proof _ ßt was tested and issued on a limited basis. It was also available for private purchase. What I like most is the knobkerry studded club! !

This figure used only my basic methods, which have been well covered to this point. Here, we will look primarily at colors used as we have not yet touched upon the British Army in France. We will only touch on the groundwork and mention some additional detailing that was done. !





1. Parts and pieces included in the kit. **2.** After clean"up, the arms were glued in place. The head and hands were left separate for painting. When painting parts separately, take care to ensure the direction of light and shadow is consistent on all pieces. !

!

My piece was built largely stock. The kit only has chevrons and patches on the left arm. I added these to the right as well (with Kneadatite epoxy putty). A square of mud"soaked earth was also added to supplement the duckboards. !

Tunic:
B: British Uniform Base (AK)*!
1L: B + British Uniform Light (AK)*!
2L: 1L + British Uniform Light (AK)*!
3L: British Uniform Light (AK)*!
4L: 2L + Khaki (AB)!
5L: Khaki (AB) " edging!
1S: B + British Uniform Shadow (AK)*!
2S: British Uniform Shadow (AK)*!
3S: 2S + Black !
4S: Black—outlining!
!

Trousers:
Trousers were painted in the same fashion using the same colors as the tunic, but were slightly darker—using the 1S color for the base and only highlighting to the 3L color. !
!

Puttees:
B: Olive Drab Shadow (AK—part of their US Olive Drab Special Modulating set) !
1L: Olive Drab Base (AK) applied with dry" brushing to create a rough texture) !
2L: Olive Drab Light Base (AK) applied in a cross"hatch for texture !
3L: 2L + Khaki (AB) " edging!
1S: Charcoal !
2S: Black " outlining!
!

Body Shield
B: Khaki (AB) + Elephant Grey (AB)!
1L: B + Suede!
2L: 1L + Suede!
3L: Suede !
4L: 3L + Antique White—edging)!
1S: Territorial Beige (AB) + Charcoal!
2S: 1S + Charcoal and Burnt Umber!
3S: Charcoal + Burnt Umber—outlining!
4S: Black—deepest outlines only!
!

Grenade Vest
B: Territorial Beige (AB)!
1L: B + Khaki (AB)!
2L: 1L + Khaki (AB)!
3L: Khaki (AB)!
4L: 3L + Suede—edging!
1S: Burnt Umber!
2S: 1S + Charcoal!
3S: Black—outlining!
!

Haversack and Respirator Case
B: Light Greyish Br (VA)!
1L: B + Khaki (AB)!
2L: Khaki (AB)!
3L: 2L + Suede!
4L: Suede—edging!
1S: B + Charcoal and Burnt Umber!
2S: Charcoal + Burnt Umber!
3S: Black—outlining!
!

Helmet Cover
B: Sand Yellow (VA)!
1L: Khaki (AB) lightly dry"brushed to bring out texture!
2L: 1L + Suede applied as above!
3L: Suede on folds, seams, edges, and cross "hatched on smooth surface for texture!
4L: 3L + Antique White applied as above!
1S: B + British Uniform Shadow (AK)* !
2S: 1S + British Uniform Shadow (AK)* and Charcoal!
3S: 2S + Black—outlining!

Sample Colors and Mixes Used

A key to the abbreviations in this chart can be found on page 122.

This variation in hues, values, and saturations shows that monochrome drab-colored uniforms do not have to be boring!



Painting of the uniforms made use of AK Interactives 'WWI British Uniforms _paint set. These were used in the same fashion as the sets seen in the main article and first featurette.

WW1 Trench Raiding

"





Near Right: A soldier wearing the Mills bomb carrier. Note the mud plastered on his uniform—consistent with the weathering seen in the figures of this volume. !

!

Far Right: A contemporary illustration showing the steps of throwing the Mills bomb—pulling the pin, preparing to throw, and throwing. If we were sculpting our own bomber, any of these three poses would be suitable in addition to the static pose of the Model Cellar figure. In fact, when posing, composing, or sculpting figures, studying the movements required to operate a weapon (loading, firing, fixing bayonets, etc.) is a good source of pose ideas. For example, look at the steps required to load a musket during the Revolutionary and Napoleonic periods—this will easily give you nearly a dozen potential figure poses from fairly static to quite dynamic. !

Trench raids, practiced by both sides, were small scale (varying from a few men to a battalion) violent attacks across no-man's land into enemy trenches. These usually took place under the cover of darkness and in conjunction with brief artillery barrages (either on the objective, or placed to prevent enemy reinforcement of the target area). Sometimes gas was used.

Raiders often used specialized close-quarters weapons like pistols, light automatic weapons, trench knives, clubs, and grenades. Often, specialized uniforms and camouflage were worn and faces were often blackened.

The objectives of raids were not to seize ground. Rather, they forced entry into enemy lines with the intent of gathering vital intelligence (prisoners or documents), killing the enemy, destroying fortifications or point targets like a machine gun nest, creating chaos, and keeping the enemy off balance. It was also believed the raids were a boost for morale and helped maintain an 'offensive spirit' X

The raids, even though often very well planned and rehearsed were still high-risk operations. Often they succeeded in their objectives. But equally often they failed. Even in successful raids, casualties were often heavy, yet localized, for both sides.

Raids took place on all fronts where entrenched enemies faced each other. The first small scale raids occurred in 1914, and continued until the end of the war.





3. Groundwork was made from Magic Sculpt epoxy putty rather than my normal Celluclay. I added and shaped the putty on the base, textured it with a real rock, and then pressed in some fine sand and gravel. I also pressed in the duckboards to leave indentations into which they would fit after painting. Note I removed the 'projections' (possibly the base of stairs) molded into the duckboards. **4.** Painting and adding mud was done normally. Once painted, the duckboards were glued in place. Once painted, the figure was glued in place. Mud on the duckboards was made as seen previously. The base was made by John Jeffries (Birchtree Enterprises). !

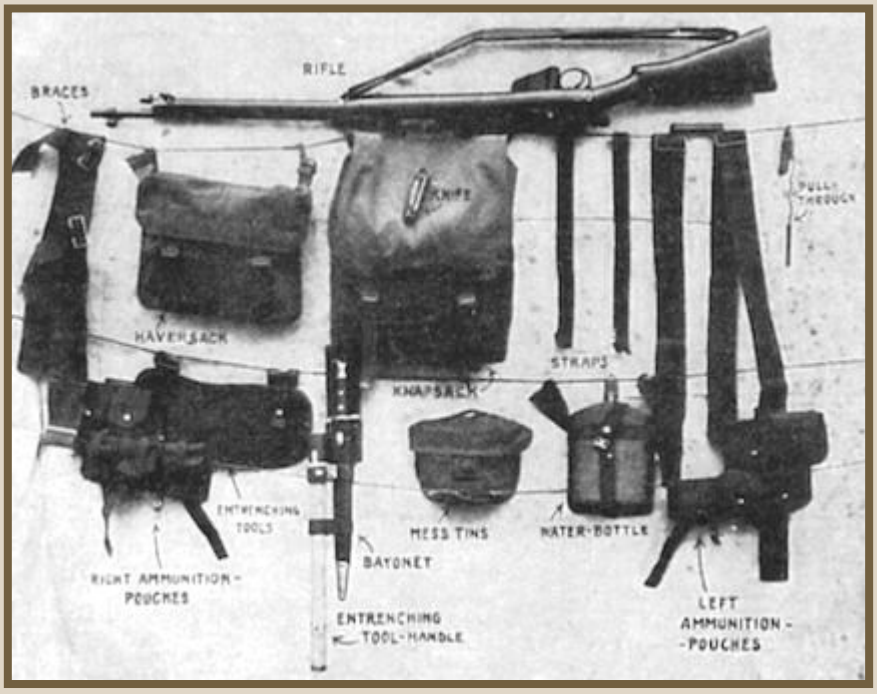
WWI BRITISH UNIFORM





The British army probably had the most practical and functional uniform of all the combatants in WWI. Britain was the first major power to adopt khaki as the standard color, which provided superior concealment in the landscape of the Western Front. The tunic featured large and functional pockets. High quality wool offered warmth and durability. The low boots and puttees were generally better in the wet, muddy trenches than high leather jackboots. They were easy to dry and offered flexible leg support and protection against mud and debris. The 1908 pattern web gear was made of durable cotton instead of heavy, inflexible leather. It evenly distributed weight and was easy to maintain in wet trench conditions. While Germany ξ steel helmet may have been superior to the British Brodie helmet, the latter was easy to produce and provided excellent projection against the major threat—airburst shrapnel raining down into the trenches.

Above left: A private of the Royal Fusiliers, 1916, showing the unform, helmet, SMLE rifle, and 1908 pattern webbing worn by British soldiers. !
!
Above right: This soldier of the Worcestershire Regiment in 1916 shows us the reverse side of the gear.!
!
Right: British 1908 pattern web gear. This is widely considered the best load"bearing equipment of any nation during the war. It was made of woven cotton webbing rather than leather, making it more durable, lighter when wet, and less likely to rot in the conditions of the trenches. It evenly distributed weight via a belt and bracers. It was both practical and comfortable for long"term wear. !
!
Not only was British uniform and kit superior, by 1917-18, the British arguably had the best overall infantry fighting capability. Using combined arms tactics, they were finally able to break the trench stalemate.



This outstanding kit, about 60mm, by JMD (now long out of production), really shows to good effect British uniform and equipment. This figure was built absolutely stock from the box, including the ground. !





INSPIRATION



Inspiration can come from many sources—your imagination, a story, illustration, or a photo. Inspiration doesn't even have to be from the same era—it can be made to fit. If using a photo or illustration, we don't have to copy it exactly: it can be used as a springboard for own ideas (like the replacement of the little boy with a little girl in the 'Strongest _seen on page 83). In this case, this photo of British soldiers lighting a cigarette for a wounded German prisoner is clearly the inspiration for the Model Cellar's kit seen on the next page. It's not an exact match, but it is very, very close. The main difference? The rifle of the soldier on the right has a set of wire cutters fixed to the end. Other details, such as one of the soldiers having a hessian cover on his helmet, match fairly closely.

The scene shows humanity in the brutal trench struggle. Men who had shortly before been enemies could recognize each other's suffering. The war was a shared experience with mutual respect—especially between British and German. Such scenes of compassion were actually fairly common.

The photo depicts the Leicestershire Regiment after the Battle of Bazentin Ridge (part of the Somme Offensive) in July, 1916. The details fit this period. The British soldiers both wear the Brodie helmet, which was universally issued in 1916. They appear to wear the carrier for the PH helmet gas mask. This was replaced with the small box respirator beginning in the late summer of 1916 and was universal by early 1917. In 1916 and 1917, the British Army developed a colorful system of geometric helmet and sleeve battle patches to identify brigade and battalion. In division involved in the fighting depicted here, the system was only just beginning, and was not standardized or widely implemented. These men do not appear to wear them, so I did not include them.

ENEMIES: BROTHERS IN ARMS

Assembly, Groundwork

This really nice little vignette from Model Cellar is clearly based on the photo shown on the previous page. It § not an exact match—the figure on the right does not have the wire cutters on the end of his rifle nor the cap comforter (or whatever it is) he wears under his STEEL helmet, but it is quite close. !

The figures are everything we have come to expect from Model Cellar in this series of builds—detail is good, and fit and casting are generally excellent. Parts are also well packed, and well protected, in their box. Each figure is packaged in it § own bag in the box. There is no ground included. The German is the simplest, being only three resin pieces and one plastic part: the figure, left hand, head, and a length of styrene rod for the cigarette. The first British figure is cast in 10 resin parts: figure, head, 2 arms, helmet, bayonet/entrenching tool, water bottle, gasmask, haversack/blanket roll, and rifle. The final figure comes in 11 resin parts: figure, 2 arms, head, helmet, gas mask, haversack, water bottle, bayonet, mess kit, and rifle. !

Model Cellar calls the vignette, ^WWI British Infantry with Wounded German _and—at the time of my purchase in April of î ì î è–retails for $48. I chose the title, ^Enemies: Comrades in Arms _as I wanted to make clear that although they are on opposite sides, they share the experience of the Western Front. I considered other titles, but that is the one I kept going back to.!

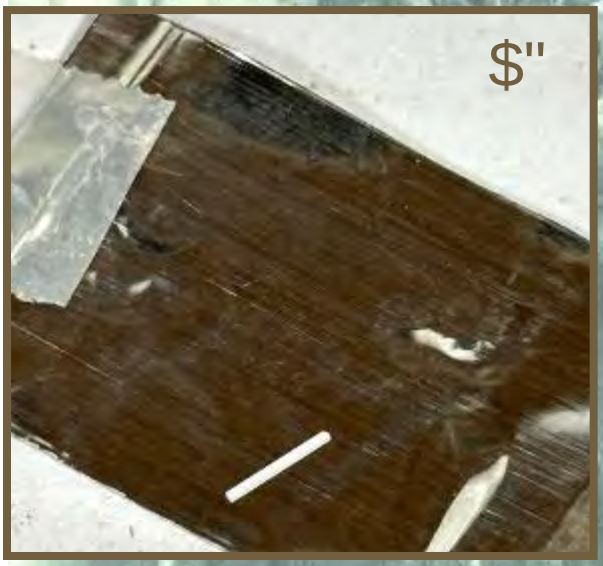
I also considered various options for ground—including one composition where trench building supplies (duckboards, wire, pickets, shovels, picks, etc.) were stacking for movement forward. In the end, I went with something very similar to the photo—simply a muddy patch of ground. For some detail and variation, I added some grass (pre"made static grass tufts). !











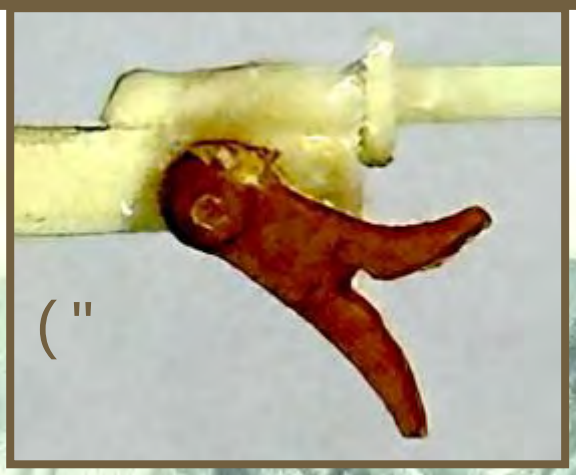


1. Here we see the parts and pieces for the German prisoner. 2. Here we see the parts of the much more complex British figures. Note how the rifles were packed in a cardboard sleeve that protected them both from damage and warping. Parts are well"keyed and fit is perfect. 3. Also included in the kit is a sheet of thin pewter foil with which to make the rifle slings and length of styrene for the cigarettes. !

4. Although fit is perfect, care must be taken. If a part is installed incorrectly, it can affect other parts and pieces. Also, although the figures are each individual, they do interact. So when placing head and hands, and especially when placing figures on the base, ensure they interact properly. The key alignments are the cigarettes and the Brit§ direction of gaze (he should be looking at the German§ cigarette. 5. I originally wanted to leave several parts (such as heads and rifles) separate for painting. However, to ensure proper placement and direction of glances, I decided to place the heads during construction. Also test fitting indicated some parts must be attached before others. In this instance, the bag would be difficult or impossible to place if the arm were already in position. 6. The same is true with the rifle in this instance. To ensure everything fit together, the rifle and arm were attached at the same time. As rifle slings also had to be attached, I ended up completely assembling all three figures prior to painting. !









7. The photo includes a rifle"mounted wire cutter, but this is not in the kit. However, ICM offers several plastic figure sets representing British and Commonwealth forces in the war. Each of their sets includes a sprue of weapons and equipment. Included is one of the wire cutters. The device fitted on British, Canadian, and US rifles—with or without the bayonet attached. The soldier would use the open jaws to capture a strand of barbed wire. A pushing motion would rotate the assembly back toward the user, which would close the jaws and cut the wire. While effective, it was a slow process which left the user open to enemy fire. I superglued the ICM piece to the appropriate spot on the rifle. **8.** The clamp was made from a small bit of foil (cut from the piece provided in the kit). A small bolt head was sliced from a length of styrene bar. !





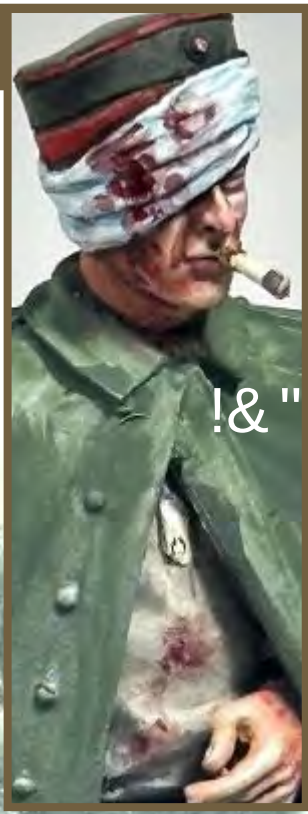




9. While the provided foil would have been fine for the slings, I prefer putty as it is stiffer and not as fragile. For this, I like Kneadatite. Most putty when rolled"out very thinly would be very brittle. Kneadatite, however, remains quite flexible when cured. Using a wooden dowel as rolling pin, it was rolled"out on a thick piece of plastic (an old credit card blank). Plenty of talcum powder was used to prevent the putty sticking to the card or the roller. **10.** After curing, strips were sliced from this to make the slings. Small pieces of pewter foil were used to fashion the buckles. **11.** The sling on the rifle of the man holding the cigarette was glued in place as a single piece. **12.** On the other man, who carries his rifle slung, the sling was installed in two pieces. **13.** At this point, I thought construction was complete, and I gave the figures a zenithal prime. Only after this did I decide that since I had added the wire cutters, I should probably add the cap comforter, too. At least I think that is what the man wears under his helmet. A very small sausage of Kneadatite was placed on the back of his head. This was shaped using my favorite toothpick sculpting tool (see page 17) before being smoothed with a damp brush. After curing, it was given a coat of Black primer (not shown). !









16. Unless compositional needs dictate, I keep blood and gore muted. I generally use the three colors shown. For old dried blood, thin glazes of Chocolate Bar work. For thicker or slightly fresher blood, Bloodfest Crimson is a good choice. Bright fresh blood is added using Tamiya Clear Red acrylic. This dries a semi"transparent and slightly glossy bright red Yperfect for fresh blood. !

14. As is my normal practice, I varied colors between similar items. In fact, each item of British Khaki was painting slightly differently. Here we see colors used on the two jackets. The bottom row shows the colors from AK § ‘WW1 British uniforms _set, and the top row shows the ‘B _ colors from Andrea § ‘Khaki _set. Other items were painted using variations of these and/or similar colors. **15.** In this in progress view of the German, note the difference in the whites of the bandage and the shirt. The bandage was given a clean look by using a base of white with a small amount of blue mixed in. Highlights were white and shades added blue. Outlining added Pavement. The shirt was a mix of light grey and tan, highlighted by adding off white, and shaded by adding mixes of darker browns and greys. !





17. After placement of the figures was determined, holes were drilled for their mounting pins. These were protected by lengths of paperclip wire while the groundwork was made. Groundwork consisted of my normal Celluclay mix. As I wanted wet mud, the mix was darker than normal, and I also added a good bit of Future to create a slightly damp looking finish. Where mud puddles would be, I left the surface of the base visible. **18.** As normal, the figures were temporarily placed and pressed in place to create indents for their feet, to give them appearance of slightly sinking into the mud. While they were in place, various sizes of dark green static grass clumps were placed randomly. Then the figures were removed and the protective pins put back in the mounting holes. Using a couple old plastic 1/35th legs (a left and right) numerous footprints were pressed into the mud surface giving the impression that many people have been walking over the ground. !





19. After the ground dried, it was painted. While nearly all of this will be invisible after subsequent mud applications, some may show through, providing a realistic layered effect. Using lighter browns, the high points of the ground were picked out. Areas of grass were dry"brushed: first yellow"green, then yellow, and finally a light tan. I have found that static grass (either applied loosely or in pre"made tufts) straight from the box is too uniform of a color and often a bit bright, or even garish. **20.** The figures were initially weathered using the methods seen with our first build, the French Chauchat gunner (see pages 55"57). This basically consisted of first applying three colors of acrylics—light, medium, and dark earth—as glazes in affected areas. After this, similar colors of oils were applied, and, while these were still wet, similar colors of pigment powders were put in place. This gives a nice layered, textured effect. At this point, with the basic ground and figure weathering completed, the figures were glued to the base. A heavy layer of wet mud was then applied to both the ground and up onto the figures as appropriate. Just like with our Chauchat Gunner (page 61), this wet mud consisted of a thick clumpy mixture of very dark earth colored pigments and Future floor polish. After this dried, additional layers of future were added as needed to create a wet look. Note that this carried onto the grass as well. This is the same dirt and mud process used in other builds in this work. !





21. As mentioned previously, the surface of the base itself serves as the surface of puddles. These were painted as previously seen in our "Storm of Steel _diorama (pages 141 and 142). Dark and medium earth colors (the same used to paint the ground) were used to paint the surface of the water, the darker color applied around the edges and the lighter color in the center of the puddles. These were applied together and allowed to blend while still wet creating a smooth transition from darker to lighter. After drying, multiple layers of Future floor polish were applied to get a good wet look. At right is the result. !









FRENCH POILU WINTER 1916/1917

Assembly, Painting, Groundwork



!!!!Like the previous builds, this one, too, is by Model Cellar. This figure is listed as 1/32. However, to my eye, the figure is a bit larger—being more like 1/30th (I didn t measure it so I could be wrong). If being built as a stand"alone piece, this is no problem, but when creating a vignette or diorama using figures from different makers (or even the same maker) be mindful that the same listed size or scale does not necessarily mean the figures are the same size or scale. There can be significant variation. !

That said, this figure is the same quality as those reviewed previously. Engineering and fit are quite good. However, some care in order of assembly is needed to avoid potential issues as we will see. !

The figure is well cast in sixteen pieces: jacket skirts; torso; head with helmet; 2 arms; 2 legs; right hand and rifle; left hand, 3 ammunition pouches; water bottle; haversack; gas mask case; and bayonet hilt. !

In this segment we look at assembly first. We will discuss painting only as it varied from what was seen previously. Finally, we will look at making the groundwork. Like we see in many wartime photos of French trenches, there is no revetment or reinforcement of trench walls; the floor is simply dirt, or, in this case, mud. !





FRENCH WINTER CLOTHING

'Everything made for the soldier is ordinary, ugly, and poor quality. _ Yesterday a man about town is no longer recognizable in this hairy, bearded combatant, plastered in mud and filth, infested with fleas, covered by sheepskins, and wearing deep trench boots. _ Both of these statements were made by French soldiers. The greatcoat was worn as the primary uniform except in the hottest weather, and the tunic underneath it was worn only in the coldest. In the winter, the soldiers supplemented this dress with whatever they could get including sheep or goat skins, balaclavas and scarves, gloves, and even rags, all from a variety of sources and in a variety of colors.

On this page we see several examples of French soldiers in winter clothing. The main difference between these photos and the Model Cellar piece is that the figure in the kit has his jacket skirts buttoned back, per regulation.

















1. The parts and pieces of the kit. 2. The three ammunition pouches are NOT the same and are not interchangeable. One of these is designed to fit with the left hand—the fingers being over the flap closure and the thumb resting under the flap. For this reason, the hand does not include a thumb as it is hidden under the pouch flap. 3. There are large pegs on each leg which fit into mating holes under the jacket skirts. This eliminates the need for separate pinning, but I needed to do some trimming to obtain a good fit. !







4. The pegs are slightly too large, and test"fitting revealed gaps and misalignment. 5. With some slight trimming, the legs fit nearly perfectly. Any remaining gaps can be filled with excess epoxy glue (JB Kwik Weld) used to glue the pieces together. Other parts were pinned normally. 6. The rifle was quite warped. It is quite easy to fix—a few second dunk in hot water will soften it enough to straighten it. Holding under running colder water will lock the correctly shape in place. !







I added a couple minor details to the figure. These are so small, they are likely not really noticeable, but in the interest of complete accuracy, I put them in place. 7. The canteen strap is molded into the sheepskin. But it stops at the belt. Using tiny bits of metal foil, I continued the straps from the belt to the strap loops on each side of the canteen. 8. I also added the rather prominent bolt to the side of the Lebel rifle. Rather than trying to make something so small and then trying to attach it, I make it in situ. After drilled a small hole where the bolt handle goes, I glued an over"length piece of styrene rod into the hole. 9. Only after the superglue cured did I cut it to length. A very short length of slightly larger rod was glued on the end. !







10. The bayonet hilt (between the arm and haversack) is a very small and easily lost part. The entire figure was assembled, leaving only the rifle (with right hand) separate for painting. **11.** Using the width of my selected base, I made some sandbags from Magic Sculp epoxy putty. Working one at a time, blobs were put in place on a smooth surface and shaped. Once shaped, they were smoothed with a damp brush to remove any fingerprints. Barbed wire pickets were fashioned from ↑ _shaped lengths of styrene (from Evergreen) and fitting to the sandbags. **12.** To contain the wall of the trench, I made a box of sheet styrene. This was filled with XPS foam carved to shape with a hot"wire cutter. It was then pinned (using toothpicks) and glued (with wood glue) to the surface of my selected base. Holes were drilled for the mounting pins going up into the figure § legs. !





13. To make the ground itself, I used Celluclay pre"colored with acrylic paints. This was the exact same process seen previously. While the mix was still wet, I painted on some thinned white glue and added various rocks and gravel bits made from sand from the gutter in front of the house and bits of kitty litter (clean, not used). **14.** While the mixture was still soft, the sandbag and wire picket part was epoxied in place. Once cured, lengths of barbed wire were superglued into place. These were made as seen previously, only the size of the wire was altered to match the smaller scale. The bags and wire were primed using black primer bush painted on. !











15. After everything cured, further painting was done. On the dirt areas, some light dry"brushing with lighter dirt colors was first applied. Next, a rather heavy wash of Burnt Umber oil paint was applied, followed by a selective wash in the shadow areas of thin Black oil paint. Finally, some of the edges of the rocks were lightly picked"out using light colors and a fine brush. The pickets and barbed wire were painted first a dark steel color. Then, just as we saw previously, rust was added by first applying a thick wash of rust"colored paints. While this still wet, rust"colored pigment powders were stippled on with an old brush. For variation, the sandbags were painted in three different colors and highlight and shaded appropriately. Finally, some edge highlighting and outlining were done using very light and dark colors respectively. Note some very fine cross"hatching of the highest colors was randomly applied to the fabric areas to create a rough burlap texture. **16.** For the snow, a paste was made from a mix of Woodland Scenics "Snow _White glue, and water. This was applied with a putty spatula to selected areas. **17.** Where the snow would have ground in dirt, I sprinkled on some dark pigment powder and ground it into the snow using an old brush. **18**. More wet mud, melted slush, and other gunk was added using pigment powder mixed with Future Floor Polish and/or more of the Woodland Scenics snow. **19.** After gluing the figure into place more of these mixes served to blend the feet into the ground. Finally, to give a wet look, straight Future was added where desired. This gives us a nice cold sloppy look. !







Painting was next and followed the same process as already seen. Dirt and mud were applied in the same ways. **20.** The fur was first painted in grey colors—darker toward the bottom and lighter on top. **21.** Washes of oil paints—a mid brown on upper surfaces and dark brown on lower— added shading and brought out the texture. **22.** Finally, individual bits of fur were picked"out with light greys, tans, and white. !



For the flesh, I used a greyer and paler base color. Due to cold, more red was added to the nose and cheeks. Purples were added to shadows. !
!

23. The base was Brown Rose with a tiny bit of Dark Blue Grey added. Fours levels of highlights were built up by adding Light Flesh until the final highlight was straight Light Flesh. The first shade added Dusty Purple. Following shades added first Black Red and then Black. The final shade was Black. Glazes of Dusty Purple were added under the eyes and Magenta was added to the nose and cheeks. Hair (eyebrows and mustache) were based in Black and highlighted first with Pavement and then with Pavement plus a touch of Light Flesh. A five o ţlock shadow was applied using a heavy glaze of a mix of Pavement and Dark Blue Grey. !
!

I chose to paint the gloves in leather—primarily because the opening on the top of the hand by the wrist reminded me of a pair of leather gloves I have. I painted the scarf a greyish"green with dark red stripes. As the scarf and gloves were not issue items, you can paint them in any manner you choose. !



GERMAN STORMTROOPER

Painting, Weathering, Groundwork



While armor and figure modeling may be considered two different disciplines, they certainly have a lot in common. The techniques and methods are not exclusive. While many types of methods, such as salt chipping, painted chipping effects, and many types of pigment weathering are normally considered armor modeling methods, they are certainly usable on figures given the right circumstances. We have already seen examples of all of these. No method or technique is proprietary to a particular genre of modeling. The best technique to use to achieve any effect or overcome any challenge is, quite simply, the one that works best for you. If this is something normally used in the armor, aircraft, auto, railroad, or other genre then so be it. !

In this segment, we will review very briefly at how these so"called armor modeling methods were used to paint and weather the trench armor worn by this figure. When I made this figure, I did not bother to photo"document the process, so I offer my apologies for the lack of in"progress photos.. Still, as we have seen all the methods used here in previous segments, brief descriptions should suffice. Groundwork will only be touched up. But worry not—the same methods which were covered in great depth in the previous 'Storm of Steel _ segment were used to make the ground here, too. !

The kit that forms the basis of this single"figure vignette is Model Cellar § outstanding 'WWI German Sniper _ resin figure in 1/16th scale. It is included in this work because It is perhaps my favorite Model Cellar figure. It includes both the figure and the dog. It is very well detailed and fits together nearly flawlessly—the only joint that needs work is where the two halves of the dog join together. The modeler is given several options: head with or without gasmask, right arm with sniper rifle or MP"18, and left hand with or without grenade. !



! "

1. the optional parts (head, hand, and arm) included in the kit are shown here. Assembly followed my normal process. I left the head, helmet, left hand, canteen, entrenching tool, and gas mask case separate for painting. The groundwork was created as one large piece with only the rats left separate for painting. !



#,%"

While I normally paint from the ^nside to the outside _ I started this figure by painting the body armor as large parts of the breastplate were painted with an airbrush. Thus, I avoided the need for a lot of complex masking and the risk of damaging already finished areas. This was followed in order by: trousers, hands, tunic, belts, boots, equipment; and the machine pistol. Other pieces were added only after all painting was completed. When painting parts separately, take care to ensure that all highlighting and shading is consistent, falls in the same direction, and has the same intensity. If the figure appears lit from above, but some pieces seem as if they are lit from the 10 or 2 o Ɛlock positions (for example) it will not look natural. The same applies if shadows and highlights on the figure are more or less intense than on the equipment. !

!

2. The breast plate was first painted in dark rust colors. To create most of the chipping, I used the salt method as seen with the MG Shield in the ^Storm of Steel _diorama (page 131). Then the base, highlight, and shadows of the green color were sprayed. !

!

3. Once dry, the salt was knocked off revealing the underlying rust color. Dots filters of oil paint (the colors are seen at right) were added—the rust colors in chipping areas, the light colors on upper surfaces, and the dark colors in shadow areas. These dots were then gently blended and streaked using a brush damp (not wet) with Mineral spirits. While these were still wet, some rusty pigments were added on rust areas. !

!

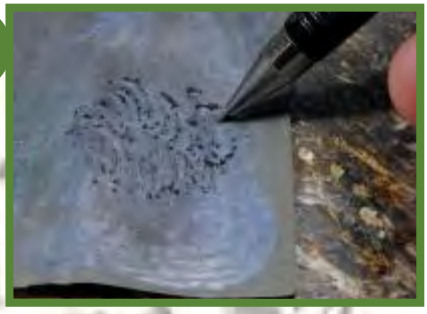
4. Smaller chips and scratches were added with a brush. This was applied to the armored breastplate, helmets, and other metal bits of gear. We ƴe seen this process previously as well. Chips and scratches were added first using a light, highlight color. These represent damage that didn Ɛ go all the way through the paint, and also the highlighted edge of deeper scratches. In the middle of most, but not all, of these, a dark color mixed from dark red brown and very dark grey was added. The dark and light colors give a nice 3D effect to the chips. !



$"







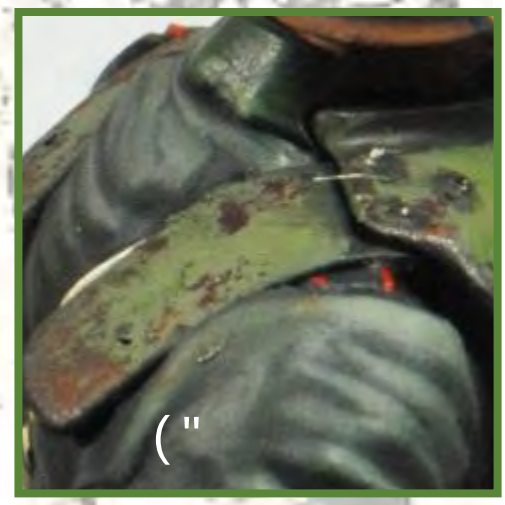


5. Pencil lead is useful for creating worn metal. It can be used in two ways. It can be turned into a powder using sandpaper which can be picked up by a finger, Q"Tip or rubber cone brush and rubbed on appropriate areas of the model. With the pencil, it can be applied directly to high wear areas. This works best on edges.!

!

Both methods were used on this figure. **6.** After painting the metal of the MP"18 a dark blue"black, the gun was buffed with pencil lead applied with my finger. High wear areas were picked"out using Steel paint from Andrea. Outlining was Black. **7.** Some areas of high wear were added to the tops of bolt heads and the edges of the breastplate with a No. 2 pencil directly.!







8. Creating textures like flesh, cloth, wood, metal, etc. is important in any scale, but it becomes more so the larger the figure gets. This photo gives us many examples:!

!

METAL: Note the metal of the gas mask canister case. It appears smoother than the other items (done by shading and highlighting smoothly) and has a slight sheen (adding a bit of semi"gloss varnish to the paint). Some chipping reveals rust, other chips show bare metal. !

!

COARSE FABRIC: Study the soldier ş canvas bread bag. Note the hatched lines added with the edging color on some of the highlights. This helps provide a rougher texture than the smoother wool of the uniform. !

!

WOOLEY FELT: This is apparent on the canteen cover. The canteen was base"colored using Burnt Umber. Highlight colors (Autumn Brown, Raw Sienna, and Raw Sienna plus Trail tan) were stippled on the top half of the cover using a bit of packing sponge (just like our chipping technique earlier). Shadows were applied to the bottom half in the same way (Dark Burnt Umber, and Dark Burnt Umber plus Black). Outlining was done using Black. !



9. The groundwork is fairly complex in this single"figure vignette. While I did not document the process here, the same methods were used in my "Storm of Steel _diorama already covered in great detail. !

!

The basic shape of the ground was built up using XPS foam, and the remainder of the ground built over this form. !

!

The wooden revetment framing for the trench wall is not actually wood—it is Evergreen styrene bar stock. To get a wood texture, the edges were distressed with a hobby knife and grain was added. To accomplish this, a very coarse sanding stick was first drug across the surface following the desired grain. Deeper cracks and gouges were then scribed into the plastic. I use plastic rather than wood as real wood grain often appears out of scale, and wood takes paint differently than the other materials I use. Sandbags were made from epoxy putty, and the corrugated steel was made as seen in "Storm of Steel _" I just created a larger size due to the larger scale. !

!

The broken jug and the German helmet are John Smith Modellbau products. So are the two rats on the sandbags. The discarded cans are lengths of brass tubing with punched styrene disks forming the ends. !

!

The base the groundwork was built upon is a lovely piece of buckeye burl fashioned by John Jeffries (Long Island, NY). A nameplate was designed on my computer using Microsoft PowerPoint and printed on thick cardstock. It was trimmed to fit the burl of the base and attached with double"backed tape. Some staining was applied using Chestnut ink (A) to give an aged appearance. !



While it may seem as if these large"scale figures would be easier to paint than the smaller figures simply because they are bigger and easier to see, that is in fact not the case. Yes, they are bigger and easier to see. That generally means they have more detail to paint. It also means we must be more exact in color placement and our various textures must be better defined than in smaller scales. Also, the closer we get to life"sized, the more gradual and subtle our transitions from base color to highlight to shadow must be in order to still look convincing. So, paradoxically, the larger our figures get the more challenging and difficult it is to paint them effectively!!

GERMAN PILOT AND OBSERVER



!!!!I can[comment much on these figures. They are based on a two"figure set from Model Cellar in 120mm entitled, ^WWI German Aviators: Pilot and Observer _ XThe original kit is shown below in Model Cellar[box art. However, the piece shown here is a pair of busts created by a friend of mine from the Model Cellar kit. He then gave them to me to paint. Obviously, he cut them down into busts and converted the pilot figure from being bare"headed to wearing the flight helmet he originally carried. He also gave the man[coat a fur collar. I do not know what other changes he may have made. !

The figures work as busts: they show the thick garments worn to protect the crew from the cold at altitude, and they also show off the flying helmets to good effect. I think, however, I would prefer them as the original full figures to show off the camera the observer carries and their thick flying boots to protect their feet from the cold. Model Cellar also markets a 1/12 scale bust of a German aviator that is similar to the man here wearing the leather coat. !

As given to me, the figures were each cast in one piece. Each also included a small resin pedestal I chose not to use. This was replaced with metal rods. For the most part, painting followed my normal methods. Here, we will look at the leather items, goggles, and fur. As the figures are a pair, I posed them on the same base. Model Cellar has the molds (I believe), and it is possible they will be available in their catalog at some point in the future. !



WW1 German Aviators

!





Aircrew were drawn from officer and NCO ranks. While both could be pilots, observers were usually officers, at least early in the war, as it was felt an officer could better appreciate the military implications of what he could see. Initially observers were also pilots, but later in the war non-pilots could serve in the role.

Early on, low altitudes and low speeds allowed the use of conventional uniforms. This was normally their original uniform from whatever regiment they had come from. As speed and altitude increased, crews battled against the cold in their open cockpit machines. Gear was varied. The official flight helmet was made of leather with heavy padding (leather covered felt) around the bottom edge and across the skull. Pilots could, however, buy their own helmets, and captured models were also popular. For flight clothing, the black leather double-breasted coat and trousers were like those issued to transport drivers. The all leather uniform was replaced in 1916 (but continued to be used) by a variety of field grey moleskin garments – both coats and over-trousers.

Due to less strict uniform regulations in the air service, pilots often personalized both uniforms and aircraft with bright, bold colors. Silk scarves were commonly worn to prevent chafing, and (when flying) more comfortable non-regulation clothing rather than strict military uniforms. !

One of our figures wears a moleskin uniform, while the other wears a double"breasted leather coat with moleskin over trousers. Both wear scarves and each has a different style of flying helmet—one has the issue padded leather version while the other wears a linen"covered cork helmet. On this page are some photos of aircrew in various flying gear combinations. Above, we see two pilot"observer pairs. Below left is Ernst Udet—with 62 kills, he was the second"highest scoring German ace of the war. Below right is Fredrich Schaefer wearing a double"breasted fur"lined coat very similar to one worn by one of our airmen. !











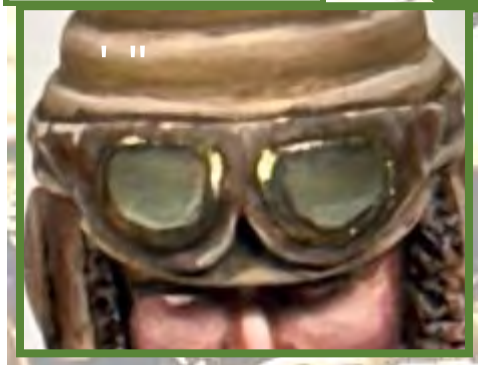


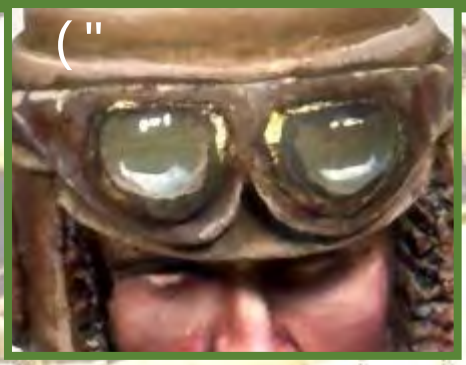
Painting started with the faces. Color and methods were as we have seen already. However, as these are larger, more layers were applied giving us a smoother transition from highlight to shade. A bit more detail was also added to things like eyes and lips. In fact, these were done using methods partway between those used for the 75mm pieces we have seen and the larger 1/9th scale pieces we will see. I generally do not use my airbrush for figures of this scale, but it can be done. For larger figures, I almost always airbrush base layers of flesh and much of the clothing.

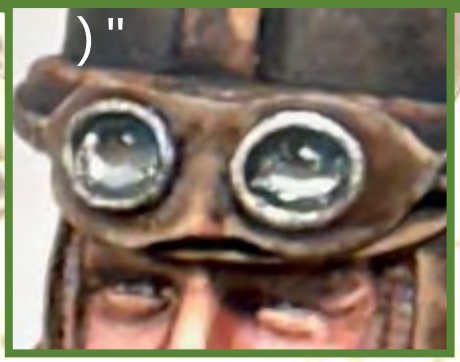
Next, attention turned to leather items. **1.** I base-coated the helmet in Dark Brown. **2.** Next, darker colors were gradually built up, leaving the base color to show through somewhat in wear areas. First, I added (from Andrea Khaki paint set) Base B. Next, Black was added to the Base B. **3.** Next, wear and cracking were added. I started with Autumn Brown, and then applied Territorial Beige plus Autumn Brown. These colors produced wear. Cracking was added first using Territorial Beige and then Tan. **4.** In all but higher wear areas, a glaze of Black Ink was applied. This dries with a slight eggshell sheen, helping to sell the leather texture. Outlining was done with Black. The side flaps were painted using similar methods. I started lighter using Autumn Brown. Darkening colors were Autumn Brown plus Base B followed by Base B. Lighter colors were Autumn Brown plus Territorial Beige, Territorial Beige, and Tan. In non-wear areas, a thin glaze of Brown Ink was applied. The helmet of the other aviator is linen-covered cork, and was painted normally.











5. The leather portions of the goggles were painted using similar methods. Metal eye"piece rims were also painted normally (painted with a dark metal base with lighter highlights). The lenses were first painted the same colors as the helmets. As light enters the top of the lends and exits out of the bottom, just like when painting eyes, the highlight was around the bottom portion of the lens (the top portion would also be in shadow from the rim). **6.** Using a medium green, a thin glaze was applied over the lenses. **7.** Then, using white, catchlights were placed on the upper surface of the lends, and a crescent"shaped highlight added at the bottom. At this point, it already looks like reflective glass. **8.** To complete the illusion, the lenses were given a heavy coat of Gloss varnish. !

The leather jacket essentially used the same colors seen for the helmet. However, while the helmet is hard, the jacket is soft and flexible, so the method of application differed. !

9. The base was a dark color made of a mix of Khaki Shade B and Black. The first few highlights were applied normally as glazes and consisted of Khaki Shade B followed by Dark brown, followed by Autumn Brown. **10.** The next several lights were applied using dots, dashes, small lines, etc., to create a bunch of cracks and wrinkles. The first of these was Territorial Beige. This was followed by Territorial Beige plus Tan and then Tan. Edging was done with Tan. **11.** Shading was completed using glazes of Black Ink. **12.** Outlining was accomplished using Black and some additional cracking and wear were added to edges using Tan plus Antique White. !

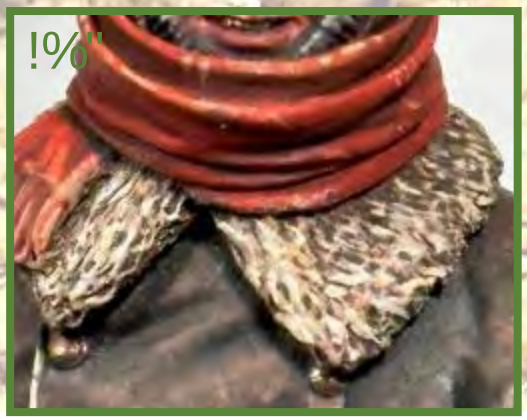












There are many ways to paint fur. My methods vary depending upon both scale and the way the fur is sculpted. In a small scale, you can get an acceptable result using a base color, dry" brushing, and a dark wash. In larger scales, that method falls a bit short. Let § look at how it was done here. We will use the brown fur on the leather coat. Other fur used the same method, simply different colors. !









13. The base color was again Khaki Shadow B. I started adding texture with light dry"brushing—first Dark Brown, then Territorial Beige, and finally Territorial Beige plus Tan. Lighter colors were applied in natural highlight areas. **14.** To make the fur look more realistic and to add a bit of variation, some individual strands of fur were picked out using Territorial Beige, followed by Tan, followed by Antique White (not shown in the ^colors used _photo at left). **15.** Finally, some gentle shading and blending was accomplished using very thin glazes of Chestnut Ink. Deep shadows were added using Brown ink. This photo shows a good comparative view of the various textures of cloth scarf, fur, leather coat, and metal buttons. The larger in scale we get, the more important it becomes to realistically create the various textures. Brushes used are also shown. The base color and the ink glazes were applied with larger round brush—a #2. Dry"brushing was done with a #2 flat. Hair texture was picked"out using a #0. Note that the method used here is very similar to that used on my winter Poilu seen in an earlier segment—as the sculpting method was similar, so too was the painting. The slight differences are accounted for by size. !

!

MODEL CELLAR WW1 AIRCREW FIGURES



This diorama, completed in 2010, features the outstanding Wingnut Wings 1/32 Albatros DVa (now out of production and very hard to come by). The pilot figure is from Model Cellar: ^Eduard Ritter von Schleich _appearing here as Hans Joachim Hippel. The outstanding little dog is from an old Time Machine Miniatures WW1 British Pilot kit, ^Call of the Joust _ I've used something like three of these pups in various projects—it's my favorite model dog. Other figures and bits are conversions or scratch-builds.

Aircraft dioramas present a compositional challenge as they have much open space between the wings and tail and around the nose. In these instances, you can't frame the scene any tighter (unless you crop the model creating a ^wedgie _piece). You could select a smaller (or differently shaped) subject – but of course this is not possible if you wish to model a particular aircraft. You can also fill the space in some way. This could include fueling, arming, or maintenance operations. In this instance, while the aircraft is the main focus simply due to size, a pilot with his dog and a photographer were used to fill the space and provide a bit of human interest. A chicken and her chicks fill the empty space by the nose—it doesn't take much to kill dead space. The fence and sunflowers block the viewer's eye from leaving the scene to the right. Other details are only for visual interest. These include a ground crewman (original sculpt) just visible behind the gatepost and a little boy (Andrea) gawking at the airplane from behind the fence. The mechanic provides a reason the aircraft's cowlings are removed and lying on the ground. Had I wanted the pilot and photographer to be the main focus, cutting away most of the aircraft and creating a ^wedgie _vignette would have been the way to go. !

A very large proportion of Model Cellar's WW1 figure kits represent air and ground crewmen: pilots, observers, and maintenance personnel. There are something like 60 such offerings in their catalog, both individual figures and sets of two. The men in the two-figure sets are also offered individually. Figures are available in 1/48th and 1/32 scales—both common sizes for WW1 model aircraft kits, making them attractive to more than just figure modelers. Other offered scales and sizes include 1/24, 1/12, 1/9 and even a 1/6 scale bust along with 120mm in both full figures and busts. Many of the famous pilot personalities of the Great War are offered in all the scales. A wide range of nations is covered including British, French, German, American, Italian, and Russian. !





!

Here we see front and back views of the Model Cellar figure used in my Albatros diorama. In the kit, the figure's right hand holds a pair of gloves. I swapped out the hand and added a cane made from heavy wire.

Any figure can, of course, be used either as the manufacturer intended or can be made into something else. I was given this 1/48th Model Cellar Lothar Richthofen in 1/48th scale (near right), but I had no particular use for it. However, I build a good many 1/48th scale armor kits, and I chose to create an early WW2 German sentry during the brutal Russian winter. Lothar provided the basic form (center right). All unneeded detail was carved away, leaving only part of the coat and trousers. Part of the original left arm was used as well. His neck was replaced with a piece of wire, and the head was repositioned. A helmet from Tamiya was added. All other detail (except for a Tamiya submachinegun) was scratch built using Magic Sculpt epoxy putty, styrene bits, and a length of pewter foil for the helmet strap.







FINAL THOUGHTS !

Of all the various types of modeling, figure modeling can be among the most challenging: but making a lifeless casting become a little person is fun, and – when we really get it right – very rewarding indeed. Even when building a model, I usually include at least one figure since figures attract the eye, provide a sense of scale, add visual interest and a "human" element, and assist in story telling. I like stories! To me the most memorable and inspiring pieces are the unique and imaginative ones, even if they are "technically" not the best. And a piece with a great story, a great composition to tell that story, and excellent craftsmanship is memorable indeed!

If you are new to the hobby, welcome. Much of this was written with you in mind—but I hope the grizzled veteran also found the work useful. All of us, no matter how new or how experienced, can learn from one another. The examples contained herein range from the basic to the relatively complex. Still, I have tried to keep my explanations simple enough for the novice to follow even when the methods I'm describing are not so simple.

The hobby is more than just building and painting "small". Anatomy and pose must be realistic and natural. Different textures such as flesh, cloth, metal, wood, leather, and stone must be represented in order to be believable. Areas in light and shadow should be highlighted and shaded to avoid a flat, featureless effect. It is not difficult to master if you can color between the lines. Once you understand the basics the rest is cake. The same is even true of sculpting your own figures, painting special lighting effects, and so on. Examples of all this and more can be found in my other works. Start with an easy, painter-friendly, figure. Many are those who tackled a project beyond their ability and ended up frustrated. Buy only the materials you need for your first figure and expand from there. As for kits, there is so much available that you can create a nearly endless variety of figures, vignettes, and dioramas by building and painting only straight from the box kits if you prefer. However, you can also, as you grow in experience and ability, take a kit and detail, personalize, or convert it into something completely different. Many sculpt their own figures. I've done all of this. It's not as hard as it seems. The choice is entirely up to you.

Challenge yourself by trying something new on each build and your skills will quickly grow. Don't be disappointed if your first works aren't masterpieces or if you make mistakes (we all do). Give each project your best, and you will proudly live with the flaws—but use those flaws as motivation to improve! And keep in mind, the only way you will improve is to practice. All the "theory" in the world (how-to books, step-by-step articles, YouTube videos, etc.) may help you to understand, but you will only improve by doing—and doing a lot! In the book "Art and Fear" by Bayles & Orland is a story of a ceramics teacher who divided his students into two groups on the first day of class - one group would be graded on quantity only and the other would be graded on the quality of a single pot. The results were surprising—the finest pots were made by the "quantity" group! They had been churning out pots, learning from their mistakes, and getting better while the "quality" group sat theorizing about and planning for perfection rather than making pots. All they had to show for their efforts were great ideas and a poorly made pot – they lacked the practical experience to do better. The same applies to our hobby. Our first efforts will not be masterpieces, but by viewing this in a positive light – not being discouraged – we learn, improve, and become more creative and more resilient. See your errors not as reasons to quit, but as challenges to overcome.

I want to thank all those who have helped me to improve over the years, but you are too many to list. If you have ever provided feedback on my work, or if we've talked modeling techniques and methods, then you are on the list. This work is my feeble attempt at paying forward all that everyone has provided me over the decades. Hope to see you at the shows!





A 2025 "Family" Portrait. Kevin (with Nova) and Arden (with Cali).

ABOUT THE AUTHOR

Kevin Townsend retired from the U.S. Air Force as a Senior Master Sergeant in January 2006 after 22 ½ years of service. He currently works as an Air Force civilian employee.

Kevin began modeling in middle school in the early 1970s inspired by the works of late master modeler, Shep Paine. Although mostly just a figure-modeling hobbyist, Kevin has done modeling work professionally for museums and model figure companies. Normally, however, he only builds and paints those subjects that appeal to him personally—he does not, as a rule, do commission work. His figures—and models—have won numerous awards including Bronze, Silver, and Gold medals and special awards such as the 'St Petersburg Medal _ UMost Popular Award _ \and 'Best In Show _ X

Kevin has been married since 1983 and has two adult children and seven grandchildren. He currently lives in New Jersey with his wife, Arden, and their two incredibly spoiled little dogs, Cali and Nova.

Kevin makes no claim that the methods used in this collection are the only ones—or even the best ones. They are simply the ones he uses to make his figures. Few of the methods are his own original ideas—most were learned from others or picked up from various modeling sources and then adapted for his use. Part of the fun of modeling is learning and trying new things. This is truly a hobby where there are no rules and each person is free to go where their imagination takes them. Each modeler is encouraged to experiment in order to find the materials and methods that work best for them. Build and paint what you want how you want.

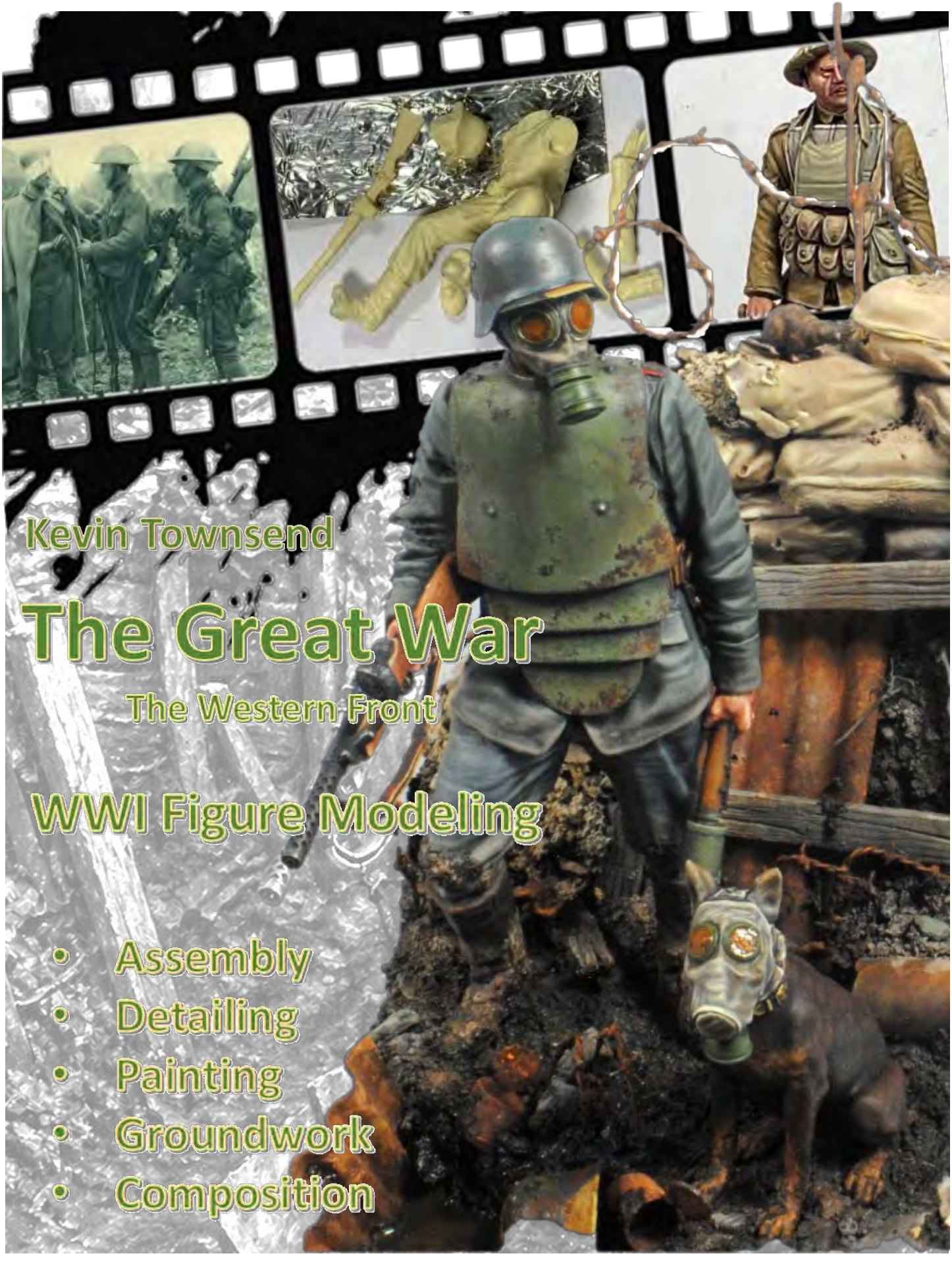
As of this writing (Fall 2026) Kevin can be reached for comment or questions at:

!!kevin_townsend1961@yahoo.com



Thanks to the magic of ChatGPT AI, here we see Cali and Nova in the trenches of the Western Front.

While dogs certainly weren't combat infantry, they were used extensively on all fronts during the war as messengers, sentries, scouts, and ammunition carriers, while "mercy dogs" were trained to find wounded soldiers on the battlefield. They also helped control rats in the trenches. And, of course, many were simply loyal and loving companions—the best type of "service" dog—and a role that Cali and Nova fill admirably!


Kevin Townsend
The Great War
The Western Front
WWI Figure Modeling
• Assembly
• Detailing
• Painting
• Groundwork
• Composition