The MyLargescale.com: Figure Class!

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Chapter 1
Getting Started

Finally! Presented with all my apologies and excuses for being late and sloppy, we can finally get going on making our own figures!

Our large-scale railroads are reflections of ourselves. Every choice we make tells us something about ourselves. The steam or diesel locomotives we run; standard or narrow gauge (or any combination of scales!); the busy urban setting or the backwoods logging line all reflect what appeals to us most as larges. Hundreds of little choices bring our railroads into existence. I spent several years "fiddling" with various aspects of the hobby until one day when I was finishing an early kit-bash, I needed a specific kind of figure for the loco and there was just no "right" figure available at the time, either in the scale or the pose I wanted. I made my own. It wasn't very good. In fact, I probably would have been better off chopping up a store bought figure. But while that figure may not have done what I wanted for the loco, it did change everything.

From that moment on, I just couldn't stick a Bachmann figure in my Shay and I couldn't stand to look at that LGB engineer with his arm held high for... what? My perception of what my —

railroad was going to be had been amended. The character of the Rogue County Narrow Gauge R.R. and its subsidiaries, the Shagamauw Lumber Co. and the Helldorado Mining and Mineral R.R.'s are going to be defined not only by the character of the locomotives, rolling stock, and buildings, but by the character of the people that drive my trains, ride my trains and even the people that stand idly by and watch my trains! From that first figure on, I've been making my own people to fit my railroad. I feel they bring a uniqueness that can't be matched by any mass produced figures and a unity to the look and feel of the railroad. They're not the best looking, best painted, best sculpted... well, they're not the best anything. EXCEPT, they are the best reflection of me I can bring to the people on my railroad. And figures do bring life to large-scale. Compare an empty coach to one with a dozen figures in it. Which would you rather have on your layout? I still have trouble watching some of the beautifully made large-scale locomotives as they tool around people's layouts without a fireman and engineer!

Even more important, your figures let people know your attitude toward your hobby. If your train pulls into the station driven by the standard issue Bachmann engineer, it's one thing. But if that same train pulls into the station driven by a cigar chomping, grimacing curmudgeon that same train now has a whole new identity!

When I began making figures for my Rogue County R.R.'s, I had done precious little sculpting in so small a scale. I've sculpted for most of my professional life, but the smallest sculptures tended to be 1:6 scale up to 1:1, full size sculptures and even a fair amount of larger than life sculptures. I found that after sculpting a 50' Tyrannosaurus Rex; a 3-1/2" figure was mighty small indeed. A lot of the techniques, tools and materials I knew no longer applied in this smaller world and I had to teach myself a new approach. I've tried a lot of things, and most of them worked, but they weren't necessarily the best or most comfortable for me. So I weeded them out of my active file of techniques and reduced my approach down to the process I'm going to impart to you in this series of articles.

Doing these figures is not an exact science, it is a subjective experience. Those of you modelers who are used to measuring and cutting styrene will find this an entirely different experience. My goal is not to teach you to copy what I do or what anybody else does. My goal is to supply you with an introduction to the processes and the materials and to show you enough techniques to get you going on your own. The whole purpose of making figures in the first place is for YOU to be able to make the figures YOU want, in the poses and sizes you need.

But be forewarned! There is a learning curve to the process and don't expect to produce Michelangelo's David on the first attempt! For some this will be a frustrating and difficult learning process while others will pick it up like it was nothing. The key to success is simply not giving up. Stick with it and you will be able to make your own figures. So let's get on with it! (END WEB PAGE 1)

It's time to order your MLS Figure Class Sampler Pack!

The good folks at the **Clay Factory in Escondido, Ca.** have put together a *Special Starter Pack* just for us here at MLS. This should get us well started with enough polymer clay for 12-20 figures.

Here's what's in it:

- 3 - 2oz. packs of PREMO, the best polyclay there is IMHO.
  - 1 - #40 - Beige/Flesh (bottom left).
  - 1 - #21 - Alizarin Crimson (bottom center).
  - 1 - #33 - Sea Green (bottom right).
- 1 - 2oz. Sculpey III pack; #3322 - Leaf Green (top left).
- 1 - 2oz. Liquid Sculpey in translucent (top center).
- 1 - 2oz. Sculpey Super Flex; #72 - Beige/Flesh (top right).

All you have to do is call them at 1-877-728-5739 and ask for the MLS Starter pack. I'm told our price is $12.60+ shipping, which is UPS ground. They ship the day after you order and this is a special deal for us with a good discount. You can order as many as you want as often as you want, but the MLS discount is for this sampler only. They'll also be sending a catalog so you can familiarize yourself with the wide world of polyclays! *You must mention "MLS" to get this discount, don't forget!*

For those of you outside the US, you can go to the **Sculpey web site.** At the bottom of the page is a store locator, which should show you a dealer in your area. You don't need to order exactly the same set as we're getting, because we won't be using all the materials in the first chapter and if you find a store near you, you can just pick up the materials on an as needed basis.

Some of you will want to purchase your materials at your local crafts store. No Problem. You don't need to pick everything up at first. Read through Chapter One and you'll see all you need right now. (END WEB PAGE 2)

Let's go!

This first chapter is a long one as it has most of the basic material information in it as well as a full figure tutorial. Please read through everything before buying anything or trying anything (except the Sampler Pack!). While I'll ask you to copy the first figure or two as close as you can, after that you'll be on your own and I'll merely be illustrating different techniques and aspects of making these figures that you can then apply to the figures you choose to do. I'm not a technical sculptor and I tend to be a little bad at organization, so please bear with me here. I don't claim to be an expert at this. I have been sculpting a while, but I'm self-taught, so don't expect a measured, technical approach here. My aim is to get you enough information to become familiar with the material and techniques so that you feel comfortable doing your own figures.

Like any skill, there is a learning curve here, so don't expect your first figure to stand in the Louvre. My experience with students is that by the third or fourth figure, you should see real improvement and begin to have fun with the figures.

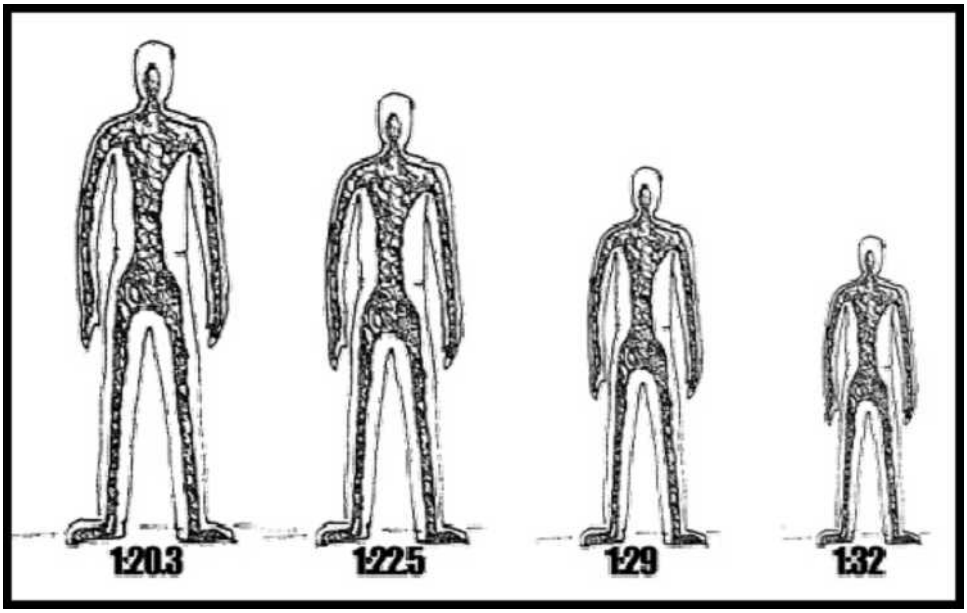
There's only one way you're going to learn how to do this and that is to do it. This kind of sculpting is all about developing a feeling for the materials and tools and most importantly getting your hands to do what your eyes see them doing. You'll never get that hand/eye coordination from reading; so don't even bother reading any further unless you're really going to give it a fair shot.

My plan for the class at this point is to do a figure per chapter and also have a section on a specific aspects, say, tools, textures, proportions, poses, etc. The human figure takes many, many shapes and the face even more. Heads and faces are the most difficult thing to master, so don't worry too much about that on your first figure or two. I'm thinking of devoting an entire chapter or two to faces and expressions.

HOWEVER, this class is for you and I want to be able to bend and change it as required. I want you to have the info you need, not merely what I think you need. For this, I need your feedback and input. I need to see your work, so please post photos. This is very important. We'll be using the **Figures & Accessories Forum** for discussing the class and I hope to see everyone's work there. It's the only way I can give you suggestions for improvement. If I see the class needs more work in an area, I'll try and focus more there.

Scales:

Rather than give you proportional measurements or formulas for proportion and scale, I've put together (with Alan Prichard's help) a figure outline for each scale.



Print out the **Figurepatterns.pdf** and use this to double-check your progress often.

PLEASE NOTE: In order to make sure you are working at the proper scale, download the following PDF and print it at 100%. Set the armature or figure over the outline that's in the scale you want to use and keep it within that outline as you work on it. The biggest challenge starting out is getting the proportions right. It's much like when you first started using crayons; the hardest part was staying inside the lines. Same here. Keeping your figures within the boundaries of the scale proportions will be a continual effort on your part, but you can do it. It's all too easy to let your figure grow and grow until you've got something too large with a head like a beach ball! Put in the extra effort to get the proportions right first; there's no way to disguise getting them wrong.

Those of you working in the smaller scales will have a more difficult time keeping the proportions right than those working in 1:20.3, but not much more difficult. And don't get smug you 1:20ers, your time will come when we do kids!

Above is Alan Prichard's set of outlines for figures in different scales (thanks Alan!). Use these as general guidelines when doing your figures, especially for checking whether you've got your joints in the right places.

PLEASE NOTE: In order to make sure you are working at the proper scale, download the following PDF and print it at 100%. **Scale Rulers and Outlines PDF**. Use the 1:1 scale at the center of each ruler as a reference. If you have printed the rulers correctly it will match up with a standard scale ruler.

Alan's been very kind to allow us to use the scale rulers he did up for my test figure class earlier this year. For those of you who absolutely must measure things, measure your own height, forearm length, shoulders, etc. and use these rulers to measure the same parts on your figure.
(END WEB PAGE 3)

Reference:

Ah, didn't even think of that one, did you? You won't need reference for the first figure we're doing, but you should start collecting references now. Whether it's engravings from the 1880's or your favorite Preiser figures, collect the references that apply to the look and feel of the people you want to inhabit your layout. Comic books are a good source of character faces; the Sunday comics as well. If you have a specific era and theme to your layout, try to find good examples that apply to your specifics. Clothing style was not the only thing that changed over the years; women's hairstyles and men's beards and moustaches went through their own fashions. You will need to decide what look is right for your people. I chose a late 1800's -1910 era for my Rogue County and it's residents, but I'm very loose about it. I use references in only a general way to get me thinking of the right kind of look, but you may want to find a specific photo or illustration to follow. For most of you beginning sculpting, this may be an easier way for you to learn.

While not in my era, I refer often to the works of Norman Rockwell. The people in his paintings are well worth studying. Not just for the incredible amount of character he put in their faces, but because Rockwell had fun with his people! Most of his illustrations have a lighthearted warmth and humor that most of us would be happy to see on our railroads. He specialized in capturing the quiet emotions in little vignettes of two or more characters. This is exactly the kind of thing that works especially well in garden railroading. I think that the figure frozen in mid stride racing to catch the train only points out the lifelessness of the figure. The best figures I've seen are the "doing sumpthin' doing nothing" characters who are in a more relaxed pose, often appearing to be studying something. This is a kind of implied action. The character is thinking.

We want our people to seem as alive and real as our trains, whether they're serious, entirely realistic railroaders or wacky cartoon funsters. The more alive they seem, the more alive our entire layout is. Norman Rockwell used his characters brilliantly, posing them so expertly that we don't even need to see their faces to get the picture. On several occasions, Rockwell chose not to show the subject's face and let the pose tell the story. That's what you want to strive for; a figure or set of figures that tells a story. We all love the little vignettes each of us sets on his railroad and figures specially made for that scene will maximize the effect. So when you're looking for reference, don't just look for information on clothes and hairstyles, look for inspirational references. Character, implied action and emotion will go a long way to endear your homemade figures to anyone who sees them. So start a scrapbook of family photos, favorite comics, portraits by the Old Masters, whatever appeals to you. Then get your favorite store bought figures together to use as general size and proportion guides. Then go to the library and take out a book of Norman Rockwell's illustrations. Then write down any ideas you may have for figures or character interactions you'd like to do yourself.

An Introduction to Polymer Clay: What the heck is it anyway?

Polymer clays or Polyclays are synthetically produced sculpting materials that are hardened by baking in an oven. Although the widespread crafts use of polymer clays is fairly recent, the development of the material itself goes back to the 1930's. Polyclays are a form of Polyvinyl chloride, or PVC, as in the plumbing pipe, inflatable pool toys, fake leather, and a zillion other products. PVC is very hard in its original form and plasticizers must be added to soften it and make it workable. Various manufacturers add different plasticizers and additives in different proportions to achieve varying consistencies and strengths. Some are stronger than others, some more flexible than others, and some are just plain better than others.

Polyclays are mixed up in great batches at the factories and there can be obvious differences in the batches. Some batches may be firmer, some flakier, creamier in texture, etc. Choice of color makes a huge difference as well. Translucent and semi-translucent colors tend to be softer and stickier. Polyclays with fillers like the pearlized and metallic colors tend to be stiffer, which can be a plus, when working this small.

Polyclays are very durable and long lasting when baked properly, but may be subject to some deterioration in the UV rays of the sun. I've had a test figure outside in all weather for —

several years with no effect at all, but my climate here in Santa Barbara is relatively mild. A coat of paint should give your figures all the protection they need, but recently I also been giving them a coat of clear water based polyurethane to protect them against scuffing.

I use exclusively Polyform Products polyclays. I've tried just about everything out there, and I prefer this company's polyclays by a wide margin. They're known mostly by their product Sculpey®, but they offer a full line of different clays. I've used their products for over twenty years and the company has come a long way in developing their line. I've tried the others and settled in nicely with these. If you're an experimenter, I encourage you to try them all. If you're not, stick with these.

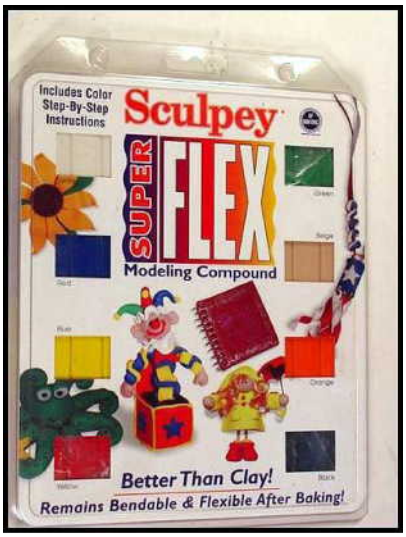
Here's a quick rundown of the polyclays from Polyform Products. Sculpey, Sculpey III, Granitex, Super Sculpey, Sculpey Super Flex, and Premo. You may still find some Promat on the shelves, but it has been discontinued and replaced by Premo. DON'T buy "Promat"; it was good stuff, but it's too old now to be any good (my wife says the same about me). Most of the Polyclay manufacturers have formulated their products for the home craft market (jewelry and decoration) rather than the serious sculptor. Polyform's product line seems more sculptor friendly. All of the Polyform polyclays can be mixed together to create different colors and properties. I invariably mix leftovers of any kind together as I go along until I have enough for another project. Here's a quick description of each.

Sculpey: The bottom end of the line, cheapest and weakest structurally. It only comes in white and terra cotta colors. Its consistency is like very soft Plastilina oil clay or the old oil-based window putty. It does sculpt well and can be sanded, drilled, and carved when cured, but tends to chip and break much easier than the other materials in the line. Better used for larger, bulkier sculptures like building sections and stonewalls, or less detailed smaller sculptures; tombstones, luggage, etc. It seems less prone to cracking and chipping than Super Sculpey. This isn't really strong enough for figures, except figures that would be permanently protected in a passenger car or building and its soft working texture can be challenging. It really doesn't "hold" detail as well as other clays, so any figures you make with this stuff will have to be less detailed "background" figures. My suggestion is avoid it for now as it's harder to learn with, but as it's the most affordable of the polyclays (especially in bulk packaging) Sculpey would be an OK choice for less detailed figures in unlighted passenger cars. (END WEB PAGE 4)

Sculpey III: Probably the most common for craft use and comes in a wide variety of colors. Its consistency is a little firmer and less sticky than Sculpey or Super Sculpey. It holds detail well and offers a bit more resistance when sculpting smaller items. Stronger than Sculpey, but still breaks relatively easily. This is fine for figures, but nowhere near as strong as Premo. It also tends to be a little too soft for working this small. But some people do very well will softer materials; it's a matter of personal choice. A good choice for populating your passenger cars, and can work OK outside as long as you don't have kids playing with them.

Granitex. is Sculpey III mixed with separate denser color fibers or chips to create various stone "looks". Because the fibers are separate material, continued mixing doesn't change the look. Great for stuff like stonewalls, gravestones, stone steps, well... stone anything. Again though, like regular Sculpey III, it's not the best choice for figures or fine detail. Maybe the stone statue in the town square?

Super Sculpey: Has long been the favorite of sculptors because of its creamy and delicate consistency and fast workability compared to other polyclays. It only comes in a translucent flesh tone. When cured, it sands and carves well, but has very little flexibility and is brittle. I have made small figures with it, but they usually broke. (All my figures get dropped or knocked at some point!) I really love this stuff, but it's just not the very best for small figures as it also tends to be a little too soft to work at this small a scale. However, it's worth a try and if you like it, it's a good choice for figures that will be protected, like passengers in sealed cars.



Sculpey Super Flex: Relatively new on the market, it's a flexible version of Sculpey III. Super Flex also comes in a variety of colors, mostly bright. Due to the need of a more flexible plasticizer, Polyform uses a crystalline plasticizer in this product. What this means is that the material is stiffer when you begin to work it, but quickly becomes a sticky putty. I've had a batch of this sit in a drawer for a while and the plasticizer began crystallizing on the outer surface. It was still workable, but less flexible when cured. Aside from that, this is an interesting development in polyclays as you can now make a figure you can drop on the floor without breaking. It can still be sanded and drilled, but I haven't been able to polish it to a shine like the stiffer Polyclays. I heartily suggest using this stuff only if kids or klutzes (like me) will be handling the figure. Because of its very soft working qualities, it's difficult to get the same degree of control and detail that some of the other polyclays offer. The major consideration is that it doesn't hold up well to multiple bakings, so a full figure has to be sculpted all in one go or maybe two, which is not that easy. Although I have to say that I have re-baked it and it has worked fine.

Having said that, Super Flex can be invaluable for very delicate parts on figures made of other polyclays. This is where we'll be taking advantage of it. I often use it for hat brims, fingers, and any other item small enough to get easier snapped off. A little bit of Super Flex can be mixed into any of the weaker or more brittle polyclays to give it more strength and flexibility.

Amazing Eraser Clay: Another recent one. The name says it all. Great for kids to sculpt their own erasers, but not really easy to sculpt any detail with. I say avoid this one.

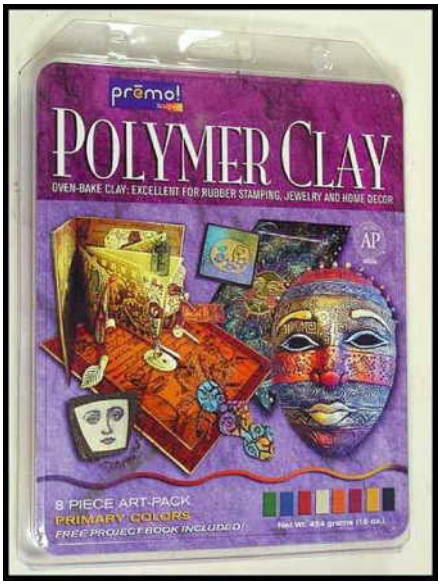
SuperElastiClay: This one has been around for a while and gone through several different formulations. I've found uses for it here and there and it's my favorite of the flexible polyclays. It comes in a light, creamy tan. If possible, maybe we'll give this stuff a try for making molds later in the class.

PREMO: Premo is Polyform's premier offering and as such, it's more expensive; but I think it's well worth it. Premo is very tough and has the strength of its major competitor, FIMO, but can be worked much more easily without crumbling and it maintains a degree of flexibility. It also comes in a variety of colors, can be worked when cured, and its consistency is stiff to medium, depending on how much you knead it. It can work very well for smaller items. I like Premo the best of all the products because it's got a little more resistance when sculpting. Also, if you're doing 1:29 or 1:32 scale figures, I'd really recommend Premo. It's going to be our mainstay in this series. One thing to be aware of with Premo is that the different colors have different consistencies; the translucent color is softer and probably the stickiest of the Premo's, while the metallic and pearlescent colors tend to be the stiffest (a good thing when sculpting this small). (END WEB PAGE 5)

LIQUID SCULPEY: Yup. Just like it says. It's pretty darn thick and comes in a translucent and white and they just added a silver and gold, I think. Colors can be added by mixing in a SMALL amount of oil paint (less than a drop) or dry pigments. It remains flexible when cured. You might be able to "paint" lettering or a design on a piece of glass, bake it and then peel it up and glue it onto and around whatever surface you want. I know it can be used to create miniature stained glass windows! Curious stuff. It's the very best for gluing broken figures back together if you can keep the pieces together while baking. I also use it to add details like buttons. I'm finding more and more uses for this stuff in large-scale figure making.

These then are the Polyform Products polymer clays. There are other manufacturers, such as CERNIT and MODELLO and KATOCLAY, but with the exception of FIMO, they are not as easy to find as Polyform's products. FIMO is a very strong clay, but very stiff and crumbly when kneading it. I try a block of FIMO every couple of years just to see if I can work it any better, but I've never been happy with it. FIMO SOFT is their easier to use line, but it is particularly brittle and weak when cured. I just don't have the time of day for Fimo stuff. But as it is a lot stiffer to work with, it might be a decent choice for people sculpting out in the middle of the desert in August. KATOCLAY is relatively new and was developed by an artist for artists. It has some very nice qualities... unfortunately they don't apply to small-scale figures.

Poly clays are available in several sizes, but most craft stores only carry Sculpey III, Granitex, and Premo in 2 oz. blocks that sell for between two and three dollars here in the states. You can sometimes find sampler pack that look like this.



Super Sculpey is usually only available in a 1 lb. Box and Sculpey is usually found in a 1.75 lb. box. Most of these can be bought in larger bulk packs at a savings from several distributors, either over the phone or online. I've used several of these, but the best experience I've had is with the good people at the **Clay Factory**.

Here comes the general info section! There are lots to absorb here and you don't need to know it all, but a quick read will give you an understanding of basic considerations. (END WEB PAGE 6)

Let's Talk About Armatures:

Armatures are CRITICAL when doing small figures! You can make figures without them, but they will never be as good as with them. Trust me on this one. I cannot stress strongly enough how important it is to have a functional armature when working in polyclays. Besides giving support to the polyclay, they also help maintain the basic figure proportions.

All polymer clays need an armature to support them over any length. Without some sort of armature, extended arms become drooping arms and straight legs become bowlegs. Polyclays cannot maintain their form over extended areas and even if baked sections are used for a support, these can sag while baking or may droop over a period of time, especially in the sun. Just to prove this to myself, I made a seated figure without an armature and left it outside for a year. I live in a very mild climate, but the figure still sagged. Not horribly, but I hate to think what it would look like after a summer in Arizona.

The less complex the form, the less complex the armature. Seated figures need less armature than standing or active figures. Polyclays do not shrink much as a rule, but many armature materials can expand when heated, causing cracks by pushing the polyclay outward. Wood is a particularly bad material for this, as it not only expands, but also gives off expanding gas and secretes resin. Wood is functional, however, when covered with another material that will allow the wood to expand without contacting the polyclay. Hard woods are much less of a problem. Paper and tin foil are examples of materials that can be used to cover wood.

Armatures can be made out of many things, but wire and aluminum foil seem to work best and are most adaptable to complex forms. Wire armatures are the traditional material for sculptures, but actually work against small sculptures such as figures. This is because when small figure limbs move, even a little, there's just not enough mass of polyclay to hold and it pops loose from the wire, weakening that area. I've always hated making wire armatures, and the —

thought of doing them in 1:20.3 is enough to stop me from sculpting. Armatures for small and even medium size sculptures can be made entirely of aluminum foil. I've worked out a very simple approach to doing a quick armature with aluminum foil that anyone can do. That's part of this chapter's work and directions will be given later. Practice making armatures. It's to your benefit.

Armatures for Sculpey Super Flex. Aluminum foil is the ONLY choice for Super Flex figures, as far as I'm concerned. Nuff said.

Preparing the Material:

All polyclays must be prepared before sculpting to soften the material and to assure an even consistency. This may be as simple as kneading the polyclay until thoroughly warm and soft. NOTE: all polyclay must be kneaded before use. Although warming polyclay will soften it for easy use, kneading is necessary to assure even consistency and to maintain the material's pliability as long afterward as possible. Warming polyclay is the first step if you're doing anything larger than a small G-gauge figure. Warming can be done in any number of ways, but care must be taken not to over warm, as that would start the baking process and also form some inconsistencies in the material. Warming can be done in an oven, but it is very easy to over warm this way and is not suggested. Placing an amount of polyclay in a zip-lock type bag and immersing it in warm (not hot) water works well. Some people simply carry the small polyclay packets around for a while in a close pocket, letting their body temperature warm the polyclay. Warming in the sun can work, but care must be taken here as well as the UV rays in sunlight can also start the baking process. Polyclays bake surprisingly quickly in the sun (Yes, I learned the hard way). Some people microwave the material at high temp for 20 seconds or less, although Polyform states that their products should not be used in a microwave oven under any circumstances. Roller-style Pasta machines are very handy in preparing polyclays. Just run the material through eight or ten times, folding it over between each pass. This slightly heats the material as well as kneads it. Pasta machines are made for softer material and can be damaged by forcing too much polyclay through too quickly, so slow and easy is the rule here.

As the amounts of clay we'll be using on our figures is so small, though, just breaking off a chunk and kneading with your fingers will be fine. Note; All utensils, tools, trays, and preparation machines that are used for polyclays should not be used for preparing food.

Kneading:

Final kneading is done simply with the hands. Polyclay can be rolled, squished, twisted, squeezed, folded, or whatever in the hands until it is soft and pliable (be careful with Super Flex and regular Sculpey, they turn gooey quickly). One of the most popular methods is rolling. Simply roll a chunk of polyclay between two hands until it forms a long "snake". Fold the snake over and re-roll; fold that over and re-roll, etc., until the proper consistency is achieved. This will be longer with some materials than others. Be sure to knead long enough to work out any air pockets. Air trapped near the surface can cause bubbles and craters when baked. I've really only noticed this with Super Sculpey.

With very old polyclay that may seem a bit "dry", a drop or two of mineral oil can be kneaded in to soften it. (END WEB PAGE 7)

Tools:

There is only one invaluable tool for sculptors... your hands. All other tools are only conveniences. They act as extensions and refinements of the actions of your hands. Tools are of lesser value than your hands. Remember that. Having said that, here are some guidelines for tools. Don't buy tools. Some of the coolest looking sculpting tools are useless for polyclays and especially useless for working this small. You're making small figures; you need small tools!

Find and Make your own tools. This is not only a good exercise in understanding what a tool does, but it also allows you to make custom tools and tailor them to the feel of your hands while you make them. Tools can be made out of wood, metal, plastic, stone, or whatever. Wood is very easy to use and can be worked into many great forms with simple tools. Wood dowel, Popsicle sticks, chopsticks, even twigs from the yard, can all be shaped with a file and sandpaper. I usually soak the wood tool in a little cooking oil before using to keep the polyclay from sticking.

Metal for tools is usually in the form of nails, which can be hammered, filed, bent and otherwise formed. Keep an eye out for metal scraps that may work for you. Bits of old hacksaw blades, small knives, wire brushes; a walk through a swap meet will usually produce some good tools if you look. A small piece of small diameter PVC pipe suffices for a roller.

We'll be getting into specific tools in the second chapter, but if something looks interesting to you or you think of something that might work... TRY IT. A good idea is worthless until you put it to the test. You'll know soon enough if that particular tool is right for you. Try to keep in mind that tools usually fall into one of two groups; cutting tools and pushing tools. Pointed needles, nails, bladed tools such as scrapers, knives and wire tools are all cutting tools. Rollers, knob-ends, spatulas, etc. are pushing tools. Some tools can be used for both techniques.

Clay guns are designed to work with softer water-based clays but can be used with polyclays. Clay guns are available at most art and craft stores. They usually come with a variety of patterned inserts that can be changed to make rod, square, half-round and many more useful shapes. The gun is like a hypodermic syringe and the poly clay is forced through a shaped opening by forcing down the plunger. The formed clay is great for straps, belts, snakes, etc. Not much polyclay can be forced through at a time, though, and one suggestion has been to put the clay gun into a larger caulking gun to get the required force.

Many times the polyclay will become too soft from working with it and it gets sticky or won't hold detail. Let it alone long enough to cool down and stiffen a little, or better yet, put it in the refrigerator. Be careful of the freezer, only because condensation may form and get worked into the sculpture, which can cause problems in baking. Also be sure to wash your hands anytime they start to feel sticky or you sense a material build-up on your skin.

Brushing:

Many sculptors "brush out" their sculptures as a final step. This is usually done with isopropyl alcohol, commonly found as rubbing alcohol. Depending on the level of detail, a stiffer or softer brush may be called for. The finer details must be brushed carefully with a soft brush, or the detail may be obliterated completely. Be careful of brushing out too often during the sculpture as the various solvents breakdown certain chemicals in the polyclay. Brushing should be kept to the last step in each stage of the figure. We'll be using this technique on our first figure.

Smooth Surface:

A final smooth surface on polyclay can be achieved by gently rubbing with a fine sponge and alcohol or by gently rubbing a light dusting of talcum powder. For even smoother surfaces, after baking polyclay can be sanded with very fine sandpaper or steel wool. A piece of worn (but clean) denim can be used to buff a light sheen onto polyclays. For a very shiny surface, use a gloss coating made for polyclays or an acrylic gloss.

Carving:

Carving can be done once the material is baked hard. However, care must be exercised because Sculpey and Super Sculpey can be very brittle and too forceful a hand while carving will cause chipping. Carving is excellent for very fine patterning and texturing, or sharpening existing detail. Carving is best done with metal tools as most other materials aren't firm enough or won't hold a sharp enough point. A sharp nail or needle will suffice; dental tools or hobby scribing tools can work better. Remember not to dig too deeply. A firm hand is critical and work slowly, carving successively deeper rather than the deep cuts you can use on the uncured polyclay. Sculpey seems to be the most desirable of the Polyform polyclays for carving as it doesn't chip as easily as Super Sculpey and Sculpey III. Because of the flexibility of Premo and Super Flex, they are much more difficult to carve.

Texturing:

Texturing the sculpture is usually the final step before brushing out. It consists of adding fine surface patterns and irregularities. IF you want to use texture pads or utensils, the sky is the limit. Texture pads can be taken of almost anything, but many things can be used by themselves. Many cloths, vinyls, and natural objects provide ready-made texture pads and are often more unique and organic than man-made designs. Texture pads can be made of found and sculpted textures with latex, silicone, or Sculpey Super Flex (Super Flex needs to have some kind of barrier to prevent sticking). Texture pads should not be too large because it becomes cumbersome to get them in and around delicate forms. For the same reason, they should be kept thin; the stiffer the material, the thinner the texture pad should be. Old toothbrushes can be used either scraped across the surface or tapped on perpendicular to the surface. Various kinds of brushes, either tapped directly on the surface or dragged for fine lines, can be very effective. Texturing can also be accomplished after the sculpture is baked. Various glues and thick paints can be stippled onto the surface. If something looks interesting, try it. (END WEB PAGE 8)

Baking:

Polyclays are cured ("hardened") by baking in an oven between 260 and 275 degrees Fahrenheit. Always read the instructions before baking, as some polyclays require a slightly higher or lower temperature. The temperatures also vary slightly according to manufacturers formulations and added elements such as metallic powders or translucence. Always check manufacturers directions. The baking temperature is very important.

Under baking produces an incomplete cure and a weaker, more breakable finished work. Slightly over baking will brown the material, which is only a problem if you were planning to use the natural color of the material in the finished work.

Burning:

Which occurs at around three hundred degrees, blackens the material, causes serious blistering and bubbling, rendering the work, brittle, ugly and useless. Burning also crosses the non-toxic threshold of the material and causes it to give off nasty toxic fumes and smoke. This is the most serious danger when working with polyclays. Unless you have an oven with a timer shut-off, it is very easy to forget and burn this stuff.

A very strong suggestion is to get a cheap food-store OVEN THERMOMETER.

Ovens are notorious for not having accurate temperature gauges. I recently damaged a large sculpture when I discovered the hard way that my oven was a full 50 degrees hotter than the setting! Any supermarket or Home Improvement Center carries these. The oven thermometer should be baked at 300 degrees for fifteen minutes, cooled and then baked twice more. This is to loosen the spring coils that are often inaccurate the first couple of heatings until they are worked in. An oven with a window is great for being able to keep a close eye on the sculpture and the thermometer.

Toaster ovens can work for small items, but most heat very unevenly and it's easy to burn what you're working on, and for this reason are generally advised against. However, I have to be honest and say that I use a Black and Decker toaster oven often and it works very well. If you're going to use a toaster oven, an oven thermometer is especially critical. I would also suggest making a "tent" out of aluminum foil to protect your figure from the direct heat of the oven.

There are some newer toaster ovens that are actually toaster/convection ovens that work quite well. Small countertop convection ovens are available that heat very evenly and have good temperature control built in. Use common sense and pay attention to safety factors at all times. If there are any uncertainties or questions about what you are doing, just do a small test. It's better to use up a little bit of polyclay, than to possibly ruin your sculpture.

Polyclays also soften even further when they are baking which can cause sagging on larger pieces, like a dragon or Sculpey Mason Bogie. All the more reason for a good armature. If your sculpture has a long or large raised area that is unsupported by the armature, be sure to place something underneath to help hold its position.

Polyclays should be baked for 15 minutes per 1/4 inch of thickness. As long as the temperature stays between 260° and 275° F, polyclays can be baked for quite a long time. These clays continue to develop in strength while baking for the first two hours, so if there's any question, bake it a little longer; it will not burn unless the temperature goes above specifications. I've been told that you can bake polyclays at the correct temperature for days without them burning, but if the temperature goes up a few degrees, bad news. I usually bake each stage of a figure 10-15 min. and then when the figure is complete, I bake it for at least 20-25 minutes.

When your sculpture is done, allow it cool slowly, particularly if it is large. You should be aware that polyclays are extremely delicate when still hot after baking and even slight movements will likely break them. Of course, I have no patience myself and almost invariably pull the hot figure right out of the oven and carry it to a safe place in a rag or part of my shirt! Slow cooling allows the material to even out gently. For this reason, larger sculptures should definitely not be moved until cool. (END WEB PAGE 9)

Molding & Casting:

Simple molds can be made out of polyclays that can then be used to make "pushcasts" with more polyclay. This can be a very effective way of producing multiples of difficult to sculpt forms like sheriff's badges, guns, tools, handbags, etc. These castings can then be added to the main sculpture. Items with very heavy texture or undercuts, however, are not suitable for these molds. It is possible to create molds for "assembly" pieces of figures so that you can make numerous castings to assemble. If you remind me later in this series, maybe I can do up a set for an example.

The process goes like this; take the item you would like to mold; dust it with talcum powder; press polyclay around the object until you are sure you've pressed all the air out. CAREFULLY separate the polyclay and remove the object. Cooling the polyclay while still wrapped around the object may make it easier to remove. After baking the mold, a casting can be made by powdering the inside first and then pushing the desired polyclay in to fill it. Remove the casting and bake.

Painting & Finishing:

Acrylic paints are the preferred paint and too avoid mistakes I would suggest sticking to them. Artists acrylics such as Liquitex, Tamiya model paints, craft acrylics such as Ceramcoat, FolkArt, and DecoArt are all acceptable as well as the newer and tougher water-based enamels and water-based lacquers. Polly-S and PollyScale from Floquil are particularly tough water based paints with very fine pigment. Oil-based paints, enamels, lacquers and oil-acrylics must be avoided, unless well sealed first with one of the polyclay manufacturers sealers. Sculpey Super Flex should be painted with flexible fabric paints, although I've had good results with —

Liquitex Acrylics. Primers don't seem to be necessary or desirable as uncoated polyclays take washes well and can result in very effective coloring, particularly with the translucent and flesh (beige) clays. Polyform Products cautions against using any paint from spray cans on untreated polyclay. Polyclay manufacturers also supply gloss and matte finishes if you like. I've found the water-based Polyurethane Varnishes made by Delta Ceramcoat to work very well. Just make sure you get the Exterior/Interior kind, not the interior. Available at Michael's and many art/craft suppliers.

Adding additional materials to your finished sculpture can bring greater dimension and detail. String, chain, white metal tools, almost anything can be used. Look around; you'll find things that will help your sculpture.

Adhesives:

Where feasible, polyclays should be adhered to one another using the polyclay itself. This maintains the integrity of the material and seems to be the best bond. Pieces must be able to hold position by themselves or be supported together while baking. Most other adhesives will not work satisfactorily with polyclays because of the plasticizers they contain. Super glue will hold small pieces or large, but grabs onto polyclay quickly, so make sure of the fit. I have also used Aleene's Glass and Bead glue, which is relatively thin, strong silicone glue. It's available at Michael's and other craft stores.

Sealing:

Polyclays for interior use do not really need to be sealed, but you will want to if you've painted your sculpture. Sealing helps avoid stains and dirt from handling and makes your sculpture easier to clean. Acrylic lacquers seem to work fine. Polyform and others make sealers both in flat and gloss specifically formulated for polyclay. Polyclays are quite durable, but for exterior use Flecto Varathane or other water-based acrylic urethanes are required. Future floor wax is used by some, but I've never tried it. I don't usually seal my figures unless I feel the paint I've used is weak or thin, particularly when I use a lot of washes. Or unless I know that they'll be a handled a lot, either taken in and out a lot or simply played with by the kids. The best sealer I've found is Delta Ceramcoat Exterior/Interior Water-based Matte Polyurethane Varnish.

Storing:

Polymer clays contain a plasticizing agent to give it a soft workability. This plasticizer is a liquid and is capable of separating from the base material. This usually occurs when the material is left in contact with another material that the plasticizer reacts to such as styrene plastic or your best furniture. This reaction is called "leeching", as the plasticizer leeches into the other material and eats it away. On styrene the reaction simply plasticizes the new material, softening it into goo. In other materials, such as fine varnishes, the varnish is broken down entirely. On porous surfaces such as wood and paper, polyclays leave a stain similar to an oil spot. Natural stone is subject to leeching.

Non-porous, inert, and opaque or diffused containers are best for storing. Polyethylene, Polypropylene, glass and metal are good materials. This includes plastic bags (without any printing) and Tupperware containers. Waxed surfaces are sufficient as well.

Polyclays actually begin the baking process if left in the sun or in warm areas. Although the material will not bake hard, it will stiffen and become less workable and less even in its consistency.

So for storing your unused material, use an old Tupperware container or plastic bag (preferably a heavy-gauge or thick one) and keep it closed in a cool, dark place. Refrigerate or even freeze if it's going to be a while until your next sculpture.

Safety:

Polyform products are certified non-toxic. This means that when used according to instructions, they are safe. HOWEVER, please be aware that all polyclays give off toxic fumes when burned. If at any time you see smoke issuing from the baking polyclay, shut off the oven, open the windows fully, and leave the room until the air has had time to clear. A window (preferably two, for circulation) should be open whenever polyclay is baked. Any utensils, pans, etc. should be designated for polyclay use only and not used in food preparation. Scrub hands thoroughly after using polyclay, preferably with a soap containing some grit, like LAVA hand soap or ORANGE GOOP. If you use your kitchen oven for baking polyclay, be aware that an oily residue will eventually build up after baking a few figures and should be cleaned off before food preparation. A designated oven is preferable, but not critical.

This then is a general introduction to some of the properties and possibilities of polymer clays. The polyclay scene is changing and evolving continually. New products are introduced, new techniques developed. As you work with these versatile materials, you will discover your own techniques for getting the results you want. Some of this information will apply and make sense to you; some will just not work for you at all.

Remember, there is no single way to get what you want. If you are willing to try things and play with materials and techniques, you'll be amazed at what you can do. The Internet is a wonderful resource for information and inspiration, just search under polymer clays, polyclays, or Sculpey. You'll find technical info as well as an opportunity to see what other artists are doing in the medium. The important thing is to get familiar with the material you are going to work with; experiment and just have fun. (END WEB PAGE 10)

The Simple Standing Figure:

Ok, folks, get ready because here we go! This is going to be a step-by-step walk through doing the first figure in this series. I've tried to keep it simple, so that we'll all get through this and grasp the basic approach as well as get a little familiar with using the polyclay. Our figure will be all of one color polyclay that we'll paint when finished. As you work on your figure try and notice what comes easy to you and what is most difficult. Don't panic if this figure doesn't come out perfect. This figure is a practice figure. We're more concerned with getting familiar with the materials, techniques and procedures right now. If your figure comes out fantastic, —

that's great. If your figure comes out looking like a lump of clay, that's great too. This figure is all about getting your hands dirty and getting used to the feel of the material. Read through the whole thing before you start getting supplies; you probably have most of what you need already.

Here's What You'll Need:

Premo: Just one of the 2-oz. packs. We'll only be using the PREMO on this first figure to keep it simple. We'll get into the other polyclays later. If you've purchased the MLS Sample pack, hold the Alizarin Crimson and the Sea green up together. Pick the color that appeals to you more. Our eyes "see" certain colors better than others, something about one of the color rods or cones in our eyes being slightly larger than the others. And this is different for each of us, so some of us see blue as slightly more vibrant while someone else may go for green. As you work with the different colors of polyclay, you'll find that you prefer a certain color over others because your eyes can see that color easier. My preference is the crimson, even though my eyes are blue sensitive, because I find it's a little less straining over a long sculpt session. That's why it's important to try several colors. The beige PREMO is a little more challenging to work with because it has a slight translucence to it. This makes for a great skin tone, but it also makes the fine details harder to see. So hold off on the beige for now!

Aluminum Foil: NOT Heavy Duty. Regular old aluminum foil in the 12" width. I use Reynolds Wrap or Wonderfoil that I get at the $.99 Store. The Wonderfoil is thinner which makes it better for thinner or smaller armatures. It doesn't really matter which kind you use as long as it's not heavy duty.

Toothpick: Rounded. Unflavored or flavored, but get round ones. Break one end off where it reaches the center thickness. Using sandpaper, emery board, nail file, or even a regular metal file, round off this edge so that it's - round. Get it nice and even as this is the only sculpting implement we'll use on this figure!

Rubbing Alcohol: Isopropyl. We'll only need a little.

Medium Brush: You probably have one floating around. Maybe Sable, maybe not. Stiff, but not coarse bristles 1/4-1/2" long or thereabouts.

Fine Brush: Size 0 to 3/0 for painting eyes and such.

Acrylic Paints. Your figures, your choices. PollyScale, Tamiya, Craft store variety, Liquitex; they all work. I use craft acrylics from the following makers; Americana; Delta Ceramcoat; Duncan; Folk Art; Aleene's; Accent. There are even more craft paint suppliers. They all work. I've only found one to stay away from and that's Anita's, it just doesn't have enough pigment. You'll be painting shirt, pants, shoes, hair, eyes, and skin, so pick enough colors to do them all. Skin colors are the tough one, but Delta's Dresden flesh is a good start.

In addition you'll need:

- A raw umber for a shadow wash.
- A medium dark brown or cinnamon brown for the flesh shadow.
- And a light tan like sandstone, or ivory, for highlights.

We don't use any white for highlights as it washes out so much in photography. If you're used to mixing paints raw umber and white make a good highlight color. These paints will be your largest single purchase in doing figures, but they will last a very long time.

You'll also need a few old cups and trays for paints. I use whatever the kids get from their Jello, yogurt, etc. for the cups and the Styrofoam trays from the meat counter for the trays.

Good to have but not critical:

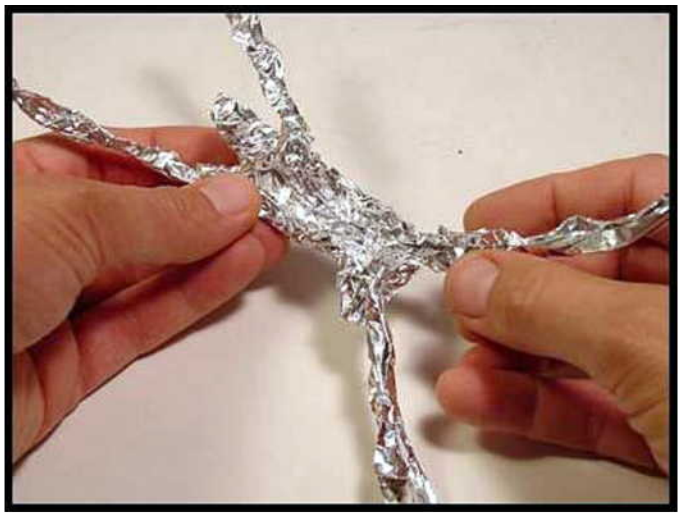
- **Scissors** - for cutting the foil.
- **Needle nose pliers-** for crunching the foil tighter around the neck.
  PS. Don't forget the oven thermometer! (END WEB PAGE 11)

Making The Armature:

Step 1:
Take a piece of foil 2-3" inches long. If you're working in a smaller scale, 2" is better than three. Vice versa for 1:20.3 and larger. If you're working in 1/29 or 1/32, you want to make sure you make as thin an armature as you can.

Step 2:
Make or tear one end 1/3 the way to the center. These two halves will become the legs. Cut or tear the other end into three equal parts, again 1/3 the way in. These will be the arms and head.

Step 3:
Gently fold the center (head) section 2/3 the way down so that 1/3 of the foil extends into the center third of what will be the body. This is important because the neck is the most delicate part of the foil armature and this extension into the body will give it a little more strength.



Step 4:
Here's where it starts to get tricky; ever so gently, crumple the center section of the body together making sure to get that head extension piece crumpled into the body foil. Don't go too far, the armature has to be crumpled a little at a time or the foil will tear.
(END WEB PAGE 12)

Step 5:
Now slowly crumple the arms, legs, and head, reducing the size as you do. The armature will still be way too big at this point; so don't worry about it yet!

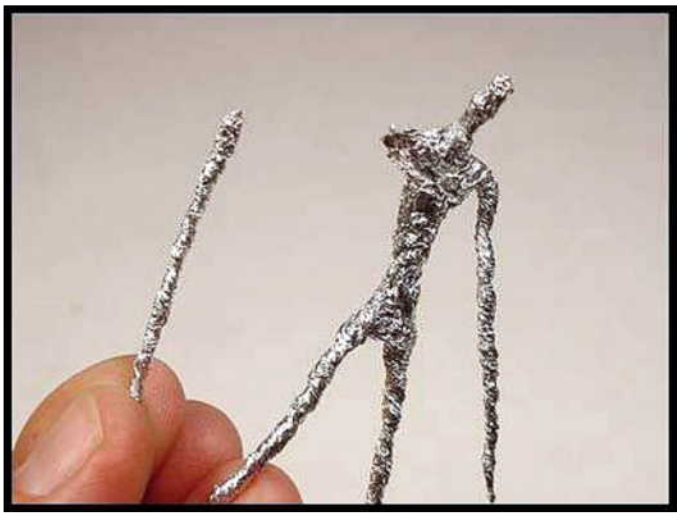
Step 6:
Start getting things down to size by squeezing and twisting the foil. Hold the base of the area you're working on in one hand (base of the neck here) and squeeze and twist with the other (top of the head). Always twist in the same direction so you don't start undoing one thing while doing another!

When doing the arms and legs, don't do the entire limb at once because the foil has a tendency to twist unevenly over the length and usually results in a tear somewhere. Work your way from the outside to the inside. You should make a couple of passes over each limb or section, getting it a little smaller each time.

OOOPS! This is bound to happen at some point. The foil has twisted unevenly or you've just plain old gone too far. DON'T WORRY ABOUT IT! We'll fix it later. (END WEB PAGE 13)

Step 7:
We've got to make sure the neck of the armature is nice and small and that the head form isn't too large. Use needle nose pliers if you have them to squeeze the neck smaller. Place your armature over the figure outline to make sure your armature is not too big. Don't worry about the long arms and legs at this point, but make sure the head section fits within the outline.

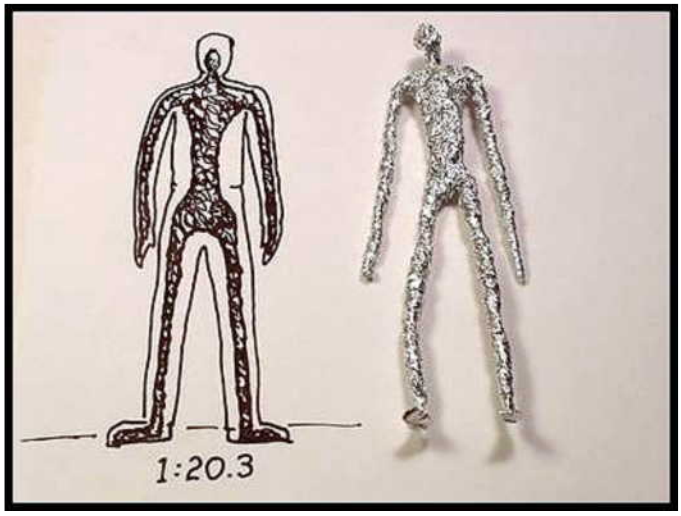
Repair Step: Take whatever section of the armature has torn off and form the meeting points. If your tear is in a joint, you need to make sure the repair is made in an area that is rigid, like the middle of a long bone or within the body section. If you need to, just twist up a new arm or leg length and;



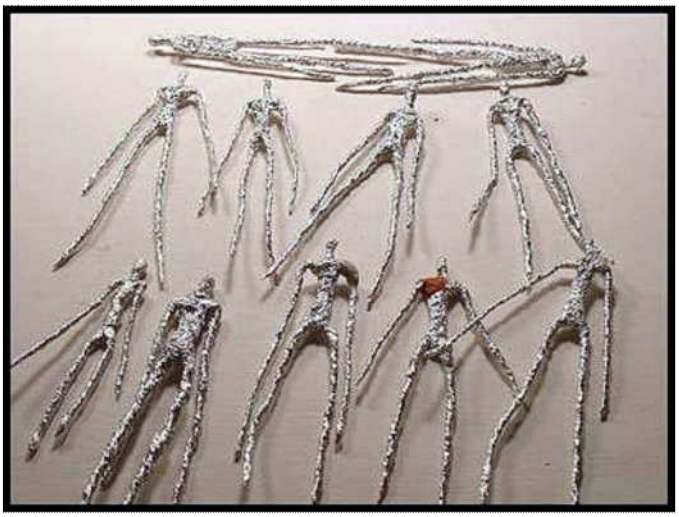
In this instance, the arm section is squeezed/twisted to the right size and the shoulder foil is loosened a little. Knead a little bit of Premo, stick it on the end and push it into the shoulder area.

Work it in and smooth it out with your fingers.

Step 8:
Make a bunch more armatures! The armature is a critical element of making a good figure. If you don't have a good armature, you won't have good control over the shape and form of your figure. So relax, watch some TV and make more armatures. This is a good thing to practice until it comes a s second nature. With practice, a good armature only takes a few minutes.



Make sure that the repair doesn't affect an area that you will need to reposition later on. Now bake this baby for fifteen minutes at 275 degrees Fahrenheit. Let it cool. (END WEB PAGE 14)

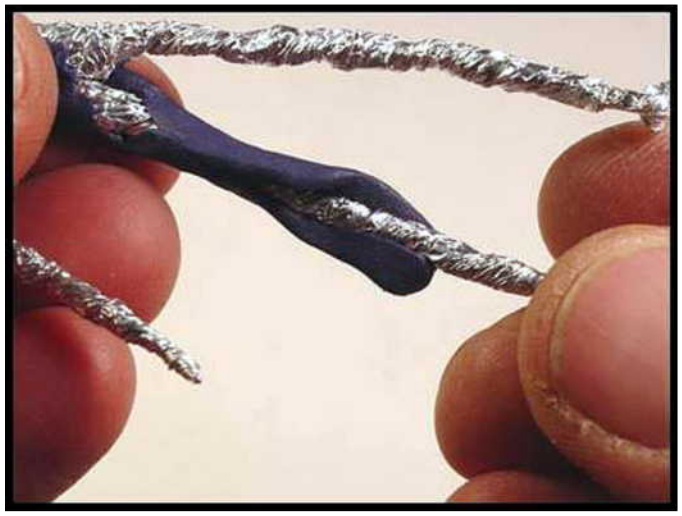


Step 9: Now that you've got a good selection of armatures done, pick one you like. Size it up against the pattern for your scale and trim the arms. This can be done by simply twisting the unwanted section off or even more easily by scissoring it off. Save the bits! I keep a box full of armature leftovers. You never know when you'll need some for repairs or just for bulking out a larger figure. Now that you've done the arms, place the armature on the pattern and bend the ankles and trim the excess off. You don't want the full length of the —

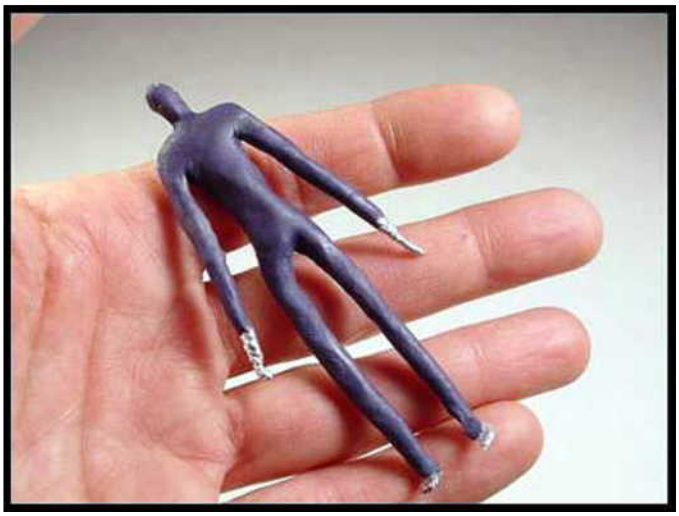
foot, but almost as this is needed for maintaining the needed support for your figure to be able to stand by itself. (END WEB PAGE 15)

Step 10:
Uh-oh, we're really doing it now! Knead a small section of Premo and work it around the body. This polyclay must be pushed onto and into all the crevices in the foil. This is what gives the armature its strength.

What we're doing here is "fixing" the position of the armature by giving it a THIN layer of polyclay. Once this layer is baked on, the armature becomes a sturdy form for our real sculpting. Do not underestimate the importance of getting this step right! This is where a lot of people go wrong. If this layer is too thick, the entire figure will get too large when the final layer is applied. If it isn't even enough, it may lead to distortions as well. So the key here is to keep this layer thin. It doesn't matter if the foil shows through here and there. Keep checking against the pattern to see if your figure is getting too large. If it is... STOP! Take some clay off, squeeze a little more, smush the Premo around until it's thin enough and you feel confident that you'll have room for another layer of clay that will still fit within the outline of the pattern.



Continue on in sections, working from the center of the armature outward, the opposite of twisting the armature.



Don't cover the feet or hands at this point. Your "skeleton" should look something like this. Don't worry if it's not an exact match, none of them are. (END WEB PAGE 16)

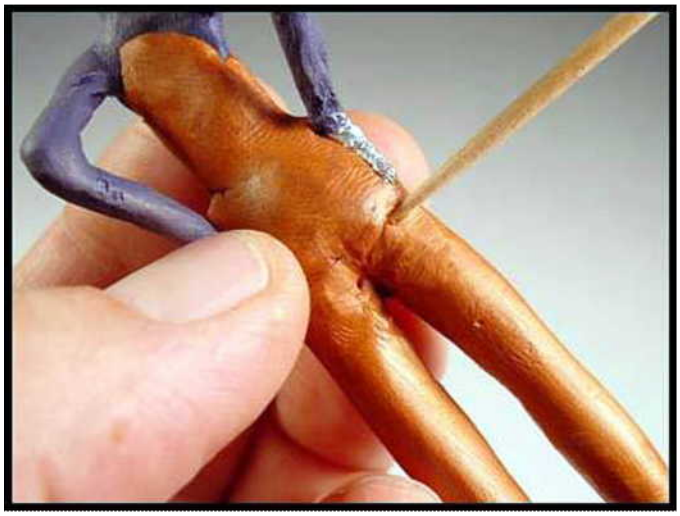
Step 11:
Now we position the form. Because this is our first figure, we're keeping it simple. All I've done is to bend the elbows so that the hands are on hips. You don't have to do this if you don't want; the pose is up to you. But if this is your first figure, I'd suggest sticking close to what I'm doing so that we can more easily see what's working and what isn't. I've placed the hands a little loosely on the hips because there needs to be a little room for when I fill out the body.

Once you're happy with the pose... BAKE! Fifteen minutes at 275 degrees. That will be our standard baking procedure unless otherwise noted. Most polyclays are very, very delicate when still hot from baking, so make sure to let the figure cool before handling.

Step 12:
I'm using a different color clay here for clarity; you don't need to do the same! Add a layer of clay to create the pants and carry it up onto the upper body a little to start bulking that out as well, but only a thin layer. A common concern making these figures is getting the torso the right thickness. If we only put an even thin layer on the entire armature, the torso will wind up to thin, so stay aware of your proportions here. It's not so critical on this step, but always try to see ahead to where the sculpture is going.

Once this layer is on, smooth it out with your fingers. Gently drawing a moistened finger over the surface works quite well. As we'll be adding folds, this layer doesn't have to be perfectly smooth.

This will give you some idea of what your figure should be looking like. Lots of fingerprints, a couple of small lumps. Don't worry. I've pulled the "hands" away from the body a bit and filled in the form. (END WEB PAGE 17)



Step 13:

TOOL USING! Everything thus far has been done by hand (except if you used scissors and pliers!). Now it's time to extend the effectiveness of our hands through the use of a sculpting tool...the toothpick. But our toothpick is special because we've rounded one end so now our tool has three surfaces we'll use. Three, you ask? Yes, indeed. Our toothpick has a rounded end for pushing the surface of our clay around; it has a pointy (well, mine didn't have a very good point, but it was pointier than the round end!) end to draw across the surface of the clay; and it has a wonderful, rounded side that will be of great use to us. So much so that we'll use it first!

First take the pointy end of the toothpick and draw a ring around the waist so you have some idea where the top of the pants are. Then take the pointy end of the toothpick and place it, well, right in the crotch at the seat of the pants. Now press and roll the toothpick away from the start point so that it creates a long depression, i.e. a fold! This may take a little practice, so if your first few look terrible, just push the clay back in place and do it again. Follow the pattern in the photo and when it looks like that... next step!

Here's the back of the knees. A different pattern, but the same technique. The toothpick starts pointed down. Press gently into the clay and roll the rounded end of the toothpick towards the front of the figure.

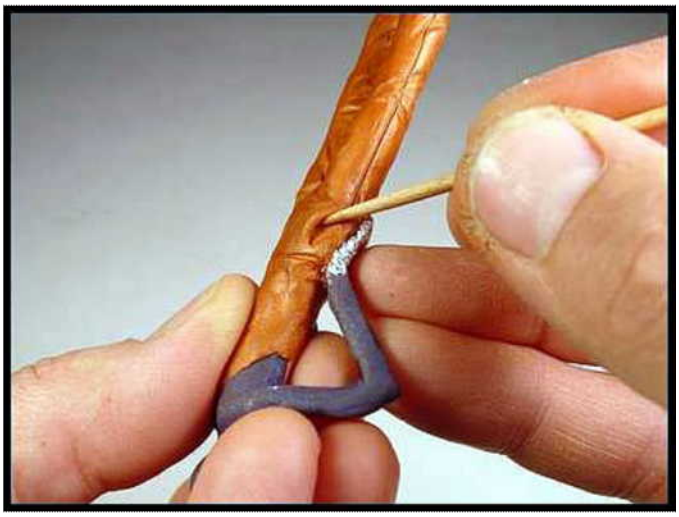
Take your time, these are basic skills that you'll use time and time again, so keep doing it until it feels comfortable or until it looks good!

Here I've added a couple of folds from the upper front of the lower leg to the lower back of the lower leg. We'll take a closer look at the pattern for the front in a minute. But now let's do one of those things that looks impressive, but is really easy. (END WEB PAGE 18)

A pant leg seam! Just drag the sharp end of the toothpick down the side of the legs. Pretty tough, huh?

Here's a quick pocket. Just push the sharp end of the toothpick as you drag it in a little crescent. This gives us the impression of a pocket at least.

One thing you may find is that it's easier to turn the figure around, or in this case around and upside down, to do matching forms. This way, your sculpting hand is more or less just repeating the same move rather than trying to figure out a new one.



Here's the pattern to follow on the front, ahem, area. Again, the zipper flap is just a matter of dragging the sharp end of the toothpick across the surface. Some of you who draw may find it easier to use the toothpick as a mini-pencil for things like this.

Your pants should be looking something like this about now. Notice that I'm not doing the bottom of the pants yet; that gets saved for later. The depth and number of folds are up to you. You don't need as many or as deep as I've done here, but if you're doing a logger who's been out in the woods for a while without any permanent press clothes, you'll want to add a lot more (and finer) folds.

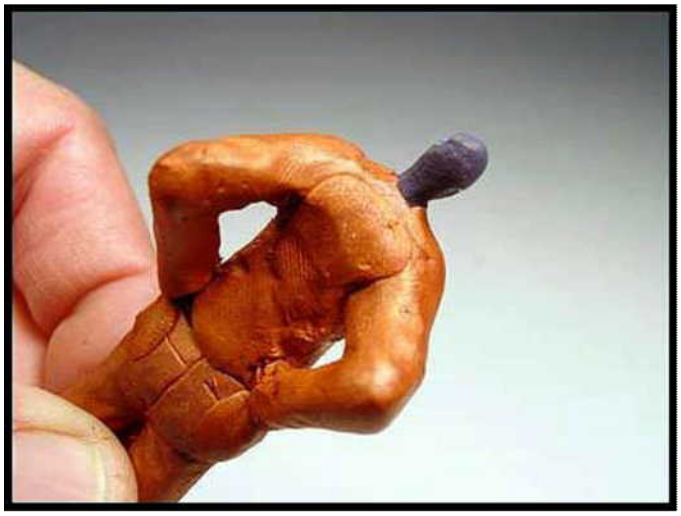
We've made it this far and things are looking okay, but what about all those fingerprints and little bits of Premo that are hanging on there? What we could really use about now is an eraser.
(END WEB PAGE 19)

Step 14:
Brushing out! Break out the rubbing alcohol! No, we're not going to celebrate just yet. Take your medium stiff brush, wet it with alcohol and gently brush the unbaked polyclay you've been working on. Don't push on it or you'll distort the detail. Just lightly brush over areas that have unwanted irregularities. The alcohol acts as a solvent and takes off the sharp burrs of clay we may have formed. Be aware that alcohol is out friend but can also be trouble. Too much alcohol will loosen added detail and the polyclay won't stick to itself then. So a little bit of alcohol at a time.

Oooops! I forgot the backside! Draw on the middle seam and lightly draw the outline of the pockets. Then "brush it out".

When you're done brushing, the folds should look a little softer and more natural. Let most of the alcohol evaporate and then... BAKE!
(END WEB PAGE 20)

Step 15:
Block in the "shirt" or upper torso and arms. Keep in mind that the torso should be thicker.



Notice also that I've placed a couple of blobs of clay for the hands.

Smooth and even the surface out, using your fingers.

Draw a line up the front. It should really be a little to the left of center in this shot. Quite honestly, I was hurrying while I was doing this and trying to sculpt and take photos at the same time!

Hey, you did such a great job on the front; let's do the same thing on the back! (END WEB PAGE 21)

Now let's see how well you're doing rolling that toothpick. Start under the arms.

Here's the basic fold pattern for the front; the insides of the elbows, under the arms and a few lighter random ones across the sides of the torso.

Carry the backs of those side folds upward on the back.

Next, let's do a couple of folds down the length of the forearm. These folds start from the outer elbow area and run around and up toward the top of the wrist. Looser clothing folds more like an accordion, and cloth never fold the same way twice, so don't worry too much about these, just make them a little lighter than the others. (END WEB PAGE 22)

Press three lines into the hand to make four fingers. We press this in rather than drawing it in, because drawing can tear thin clay.

I wound up having to add a little clay for the thumb. It's different every time. Just make the thumb higher up the side of the hand.

Guess what's next? The other hand. You can see just how not pointed my toothpick is here!
(END WEB PAGE 23)

Roll a little piece of clay in you fingers and ring it around the wrist to make a cuff.

Press the ends of the ring into the rest of the clay to make them disappear. Or simply cut them off.

With the rounded end of your toothpick, roll or push into the middle of the cuff to flatten it out a bit. Psst, by the way, you're a sculptor right about now! (END WEB PAGE 24)

Still wielding the rounded end of the toothpick, push few dimples in where buttons will go. Again, mine are too far to one side. As I recall, buttons usually go down the middle!

Roll tiny little balls of clay and put them in the dimples. Mine are a bit large here, sorry about that!

Here I've added some stress lines from the buttons. Darn that's off center! Time to "Brush it out"! Then, what do we do? (What do you mean, you didn't know there was going to be a quiz?) We BAKE! (END WEB PAGE 25)

BAKE.

Once again with the rounded end of the toothpick, press the balls down to make buttons. I don't normally use this button technique, but it'll work for now.

Step 16.

Time for the old feet! On the right you can see the blob of clay that will become a foot. On the right, I've smoothed it out and added a pants cuff using the same technique as the shirt cuffs. We've held off the feet as a separate step, because now we've got enough mass on the figure to set the balance. Wet a nice flat piece of tabletop and press the figure down. If he stays standing when you let go, this step is done. If not, you may need to fiddle a little and maybe even add some more clay to get him to stand properly. When he does, it's time to

Step 17:
Now I want you to take a deep breath, do some yoga, do some meditation, have a glass of red wine & relax. I don't want you all tense just because the next step we're doing is the... HEAD!!!!!!

Don't PANIC! We'll get through this together! The head is without doubt the hardest part of doing figures, especially this small. The challenge is fitting all those eyes, ears, noses, etc., in such a small face. That's why so many figures have heads that are too large. If you haven't made any mistakes so far, don't get cocky, kid; this is the real stuff. GO SLOW! Check continually against the pattern to be sure your head isn't inflating. Don't worry if this first head you do isn't all you want it to be. It takes a few to get it right usually and we'll be focusing on the head and face in later chapters.

Okay, roll a little bit of clay in your fingers and use it bring the thickness of the neck to the right size. This may be a very small amount of clay or a lot, but the chances are it won't need much.

Bring some of the clay halfway up the head and firmly smooth the edge down onto the cured clay underneath. Because the head is a small area that gets a lot of pressure when it's getting worked from so many angles, the clay wants to break loose. So a primary concern is keeping this clay squeezed tight on the skeleton. (END WEB PAGE 26)

Take a blob of clay the size of a large pea and press it onto the forehead of the skeleton.

Press the front down to create the basic plane of the face. Press the back down and around to form the back of the head.

Smooth it around a bit until it looks something like this. Remember to make sure that this clay is pressed firmly down so that is sticks well.

Here's a front shot of the same thing. Don't worry too much about the exact form, but try to get it to look like this. (END WEB PAGE 27)

Now blend the edges down. You may need to use the rounded edges of the toothpick for this.

This move is a little tricky, but not terribly. Gently pinch the front of the head.

The pinch should put a gentle angle on what will be the face. If the pinch doesn't work, just push the clay around with your fingers until it looks like this.

With the sharp end of the toothpick, draw two lines across the face, dividing it into thirds.
(END WEB PAGE 28)

You're doing great. Now hold the toothpick vertical to the figure, with the rounded end of the toothpick at the top. Press two dimples below the upper line. These are the positions for the eyes. Try not to press too hard at any one time on the face because it's very easy to distort the entire shape of the head if you do.

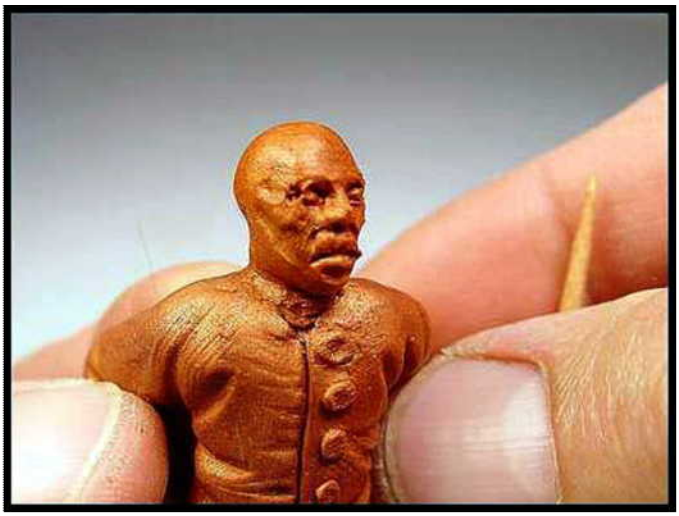
Take the sharp end of the toothpick and press in above the lower line, like in the picture. Push up slightly as well and you're creating the bottom of the nose!

Hopefully, your toothpick is a little sharper than mine. Draw circles for the eyes. Go slow and don't be afraid to push the clay around a little. If it doesn't work the first time, push it back and start again. Practice makes perfect.

Now push a horizontal dimple under the lower line. This is the lower lip above the dimple and the start of the chin below it. (END WEB PAGE 29)

Make a couple of nostrils with the pointy end. On this figure, I needed to take down the level of the cheeks under the eyes, so I dragged it down away from the eyes with the pointy end. Take the pointy end and press in the folds at the corners of the nostrils. You can see by this point that the face is a gradual "finding" of the specific forms; a little more here, a little less there.

Now use the rounded end of the toothpick to shallow the cheeks a little, if necessary. I've also gently sunken the temples at the side.



I rolled the toothpick very gently down the ridge of the nose to even it out a little. Roll a small ball of clay and press it on the side of the head for an ear.

With the round end, press in slightly forward of center of the ear. (END WEB PAGE 30)

Then with the sharp edge, press the excess back into the head. This should make the ear the right size and basic shape.

Form the ear a little more to get that inverted pear shape.

Do the same for the other side. Check to make sure both ears are relatively the same size!

Now brush out the face. Because it is such a small, detailed area, you may need to brush it out and see if it needs anymore work. Be careful brushing the face, many an ear is often dislodged by over eager brushers! (END WEB PAGE 31)

Sorry for the blurred shots, but here you should be able to notice how the alcohol has evened out the facial surface. If only alcohol worked as well on me to get rid of wrinkles!

Here's another blurred shot. Sorry. If this is a face you can live with for the first effort, well then you know what time it is, BAKING TIME!

This is a good time to take a look at where we are with this figure:

Not too bad for a first effort! Sure there are mistakes here and there, and the proportions aren't exactly right, but all things considered, we're doing darn good. Now that our fellow is out of the oven and cooled, Let's get him some hair and call him done! (END WEB PAGE 32)

Roll a blob of clay and stick it on his head!

Push it around with your fingers, creating a helmet.

Sharp end of the toothpick. Make a part.

Put a couple of dimples in the front. Hey this is easy! (END WEB PAGE 33)

Next, pointy end for hair lines. Try to create a rounded flow of the lines (hair) from front to back.

Here's a nice blurry shot of our guy. He's okay, but the length of his legs is bugging the heck out of me. Let's fix him! (END WEB PAGE 34)

Scratch some hair lines going off of the part. Make sure you press down while doing this or you may pull the thin clay loose.

The same for the other side; work your way down and back from the part. You can fiddle all you want on the hair, but as this is our first figure, simple is fine, so brush it out and BAKE IT!

Dr. Frankenstein never had it so good! Our patient is tireless and quiet. I'm sawing a thick slice out of his lower abdomen with a razor saw.

I drill holes in the exposed aluminum armature of the legs as well as the torso and insert short pieces of hangar wire. I've already forced a little Premo into the holes and I'll put some between the legs and body before reassembling them.

Here's our guy looking a little more proportional with his shorter legs.

A bit more Premo to fill in and a couple of new fold lines with the side of the toothpick, brush him out and he's ready to... OOOPS! Redoing his legs has given me the time to notice that I never gave him a shirt collar! (END WEB PAGE 35)

Roll a little "worm" of Premo and wrap it around the figure's neck. Flatten it out by rolling the side of the toothpick around and use the sharp end to slice off rough edges and to make the collar fronts. Brush out and BAKE!

Okay, a final check over the figure. Looks okay. He's.... DONE! You've done it! You've sculpted your first figure! YAY! Okay, fun's over. He's not painted yet. Clean up your sculpting area and get your paint supplies out. (END WEB PAGE 36)

Painting the Figure:

Here are the paints I chose for this guy. I only used the center paintbrush. I wound up doing most of the painting with the same brush I used to brush out the sculpture. I'm sure most of you have painted before, but if you haven't, now's the time. Get a cup of water to rinse your brush out and start! Paint each section a solid color until it comes out looking like this:

You'll notice that I let some of the polyclay color show through in spots. I like the effect it creates, making it look like worn fabric or leather. Once you've got this far, it's time to add some dimension to the paint job. We're going to be using a simple "shadow wash" and "dry-brush highlight" technique. Let's start with the wash. (END WEB PAGE 37)

Put a small amount of your raw umber acrylic in the bottom of a cup or jar (mine is a lunchbox Jello container).

Add water, little by little, mixing it into the paint until it becomes thin and nearly translucent. I use the side of the cup, but a piece of newspaper is a good way to check as well. If you can still read the paper once you've brushed on the wash, it's good.

Brush the entire figure EXCEPT the flesh portions. Actually, you can use the same color for the flesh, but I prefer something with a little more red in it. The wash will dry and look less intense than when it is first applied:

Here's the yucky, ugly wash as applied:

Here's the wash when dried. (END WEB PAGE 38)

Next make another wash out of a lighter brown or a cinnamon brown and apply to the face and hands. Let dry.

Now to dry-brush the highlights. Put a small blob of your highlight color on a tray. I'm using Americana Sand, one of my favorites. With your stiff, short bristle brush, get a small amount of paint on the tip.

Brush the bristles back and forth on the tray until the paint seems almost dry. The trick with dry brushing is to make sure the paint is not still wet and yet it's not so dry that it won't come off the brush! (END WEB PAGE 39)

Lightly brush the entire figure, bit by bit. The effect is exaggerated in these photos, but you get the idea. Don't forget the face and hands.

The dry-brushed figure.

Now get out the fine brush. Using the same color, thin a little paint and then paint the eyes. Don't paint the whole round of the eye, more of a slit across it.

Now paint the irises. I think I used the shirt color to save time here. You can paint a black pupil or not. At ten feet away, the black tends to negate whatever color is around it.

So here he is, painted! Hard to believe he was just a piece of aluminum foil a little while ago! (END WEB PAGE 40)

While he's not the most exciting character in the world, he'll look fine standing at the station or getting ready to slop the hogs on the farm. He's done his job for us. He's shown us the basic approach and techniques we will be using on our next figures. Congratulate yourselves!

Here's our guy getting the feel of his new home!

Conclusion Chapter 1:

Well, that's the lesson for this chapter. Consider this your introduction to making figures. From here on in, the background information won't be as ponderous and we'll concentrate on the figure tutorial. At least that's the plan so far.

I'll open a help thread in the Figures And Accessories Forum to ask and answer questions for each chapter. That's the forum where we should all post our figure photos. Can't wait to see what you all come up with!

Shad is letting me take over an hour or so of chat once a week to discuss our progress. At this point, 7 PM Monday PST looks workable for me. I know that's late for you on the East Coast, but I don't have a lot of options right now. We'll try it and see how it works. Shad is also willing to post the archives of these figure chats on the chapters.

Next chapter we'll take a look at seated figures and tools. In the meantime, once you've made your first figure and you feel comfortable with the process, make another! Don't let the confines of this class slow you down. Some of you will need these tutorials, but others of you will "get it" after this first figure. This is supposed to be fun and if you're enjoying it, don't stop! Race ahead, ask questions. The more figures you do the better they will get. Please post photos of your figures so that we can all share and learn from each other!

My thanks to the folks at the Clay Factory for our discounted sample pack; to Steve Conkle, who's keeping tabs on all the enrolled students, their scales and their era and subject wants; And especially to Alan Prichard, who's preparing all this for the internet for Shad.

See you next time! (END WEB PAGE 41)

Chris