

**Variety – the
Spice of Life,
Figure Conversion
Techniques for the
Miniature's
Wargammer**

**by
James H. Vidlak**

Forward

The content of this article is the culmination of over 25 years of *tinkering* with ‘toy solders’ – or to be ‘politically correct’ – tinkering with *miniature wargaming figures*. In presenting this article, the author makes no claims as to possessing any great artistic abilities. In point of fact, the author is somewhat *artistically challenged*. However, through perseverance and practice, (mixed well with some improvisation and ingenuity) and a desire to produce a unique ‘look and feel’ to wargaming armies, the author has derived and developed some ‘tried and proven’ methods and techniques to successfully accomplish figure conversions. These methods are the subject of this presentation.

The ‘target’ audience for this article is the *conversion technician*; the one who modifies, fixes, reposes, alters, ‘tinkers with’, and/or repairs the original works of the true miniature figure *design artist*. As such, this is a document of *techniques*, of *how-to’s*, of *methods* that the *artistically challenged* miniature’s wargammer can, with practice and patience, employ to successfully ‘recreate’ a set of *unique* figures to add variety to his/her army/unit composition.

Terms and Conditions

Variety – the Spice of Life, Figure Conversion Techniques for the Miniature’s Wargammer is the intellectual property of the author, and will remain such. However, this article may be freely copied for personal use, as long as the document remains ‘intact’. Any pictures, drawings, concepts, procedures, processes, and names contained in this document may be freely ‘quoted’ as long as the author is fully credited.

This article, and all pictures, drawings, concepts, procedures, processes, and names are distributed freely, without charge or reimbursement. No part of this document may be sold or exchanged for profit.

Content

Unit Variety	4, 5
The Quest	
An Alternate Solution	
The Goal of this Article	
Selecting the Core Figure	
Conversion Tools of the Trade	6 - 8
Figure Conversion – An Overview	9
Figure Conversion – A step-by-step Guide	10 - 21
Introduction to the Project	
Step 1. Preparing the Figure	
Step 2. Preparing the Technician	
Step 3. Applying the Green Stuff	
Step 4. Shaping the Torso	
Step 5. Stylizing the Pectorals	
Step 6. Strap and Quiver	
Step 7. Pinning the Head/Rebuilding the ‘Helmet’	
Step 8. Final Touch Up	
Figure Conversion Examples	22 – 34
Beginner	
Intermediate	
Combined Examples	
Unit Leader Conversion	
Standard Bearer Conversion	
The Final Unit	35 - 37

Variety – the Spice of Life, Figure Conversion Techniques for the Miniature’s Wargammer

Unit Variety - the Quest

“Variety is the spice of life”, or so the saying goes. Many wargammers prefer to have this ‘spice of life’ added to their armies in order to provide a unique visual spectacle to their unit composition. Those who desire unit variety enter into an endless quest to populate their units with figures in a variety of positions, poses, and appropriate equipment to add that look of ‘realism’ to their ‘pride and joy’. These noble gamers are the true “Questing Knight” of the realm.

These ‘questing knights’ come alive when rumors indicate a new release of figures that would complement their army. These rumors give birth to ‘hope’ which is soon tempered by a series of haunting questions;

“What size are these figures? I mean what size are they *really*?”

“Will they ‘fit in’ with my beauties?”

“Are they too big? Too small? Are they ‘chunky monkeys’? ‘slim jims’?”

“Will they enhance the ‘Spectacle’?”

And then starts the flood of internet posts; you know, exchanges in dimly-lit chat rooms, on members-only gaming sites, within the comfort and privacy of ones own gaming group. The messages all have a common theme;

“Hey, has anyone seen”

“Do you know if these figures mix well with”

Those ‘chosen few’ who pay due diligence to their mission are sometimes rewarded with the ‘Holy Grail’; a set of new figure poses and positions that perfectly complement their existing units. And for a while, all is good. But then

the hunger sets in again, ...

and the quest begins ...

anew!!

Unit Variety – An Alternate Solution

Fear not, oh noble knights, for your cause is both just and fair. To provide some succor to this unquenchable appetite while searching for the ‘Holy Grail’, gamers do have an alternate solution for unit variety. This ‘alternate solution’ is figure modification/conversion, and can yield several new poses, positions and a variety of equipment. This article presents several beginner-to-intermediate level figure conversion techniques that, when applied with some skill and patience, can yield a unit containing a variety of poses, positions and equipment with figures of the same size, proportions and design-style.

Unit Variety – The Objective of this Article

The *goal* of this article is to take the same 12 figures and convert them into a single unit containing 10 unique rank-and-file figures, one captain, and one standard bearer. The *period* of the unit will be New Kingdom Egyptian, and the *theme* will be unarmored archers with the front rank firing at the enemy and the rear rank in various poses ‘getting ready’ to shoot.

Unit Variety – Selecting the Core Figure

The careful selection of the original (‘core’) figure for this task is both necessary and essential to the successful accomplishment of the goal. The basic guidelines for figure selection are;

- Chose a figure that you already like! Let’s face it, this *same* figure - face, body style, proportions – will form the basis for the entire unit!
- Chose a figure that you can ‘bend’. Many conversions involve moderate changes in the position of the hand, arm or whatnot. For ease of conversion, chose a figure whose ‘metal composition’ allows you this ‘pliability’.
- Chose a figure whose pose is ‘neutral’. *Neutral* as used in this article describes a figure whose arms and weapon(s) are not cast against or ‘into’ the body, but are ‘free’, allowing easy ‘chop-pin-and-reposition’ activities.

The author has selected the Hourglass Miniatures unarmored archer pose NKE0022 for the core figure, because it perfectly satisfies all of the guidelines.

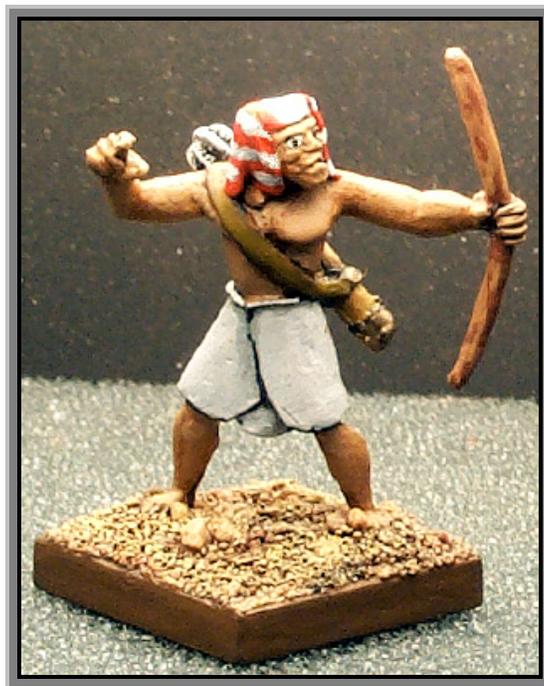


figure 1. NKE0022

Conversion Tools of the Trade

Before considering figure conversion techniques, let's take a look at some 'tools of the trade'. figure 2. Illustrates some basic tools used in figure conversions. Note that each tool/tool group has been assigned a corresponding number. A description of each tool (by number) follows the illustration and includes (1) details not evident from the picture, (2) common conversion/design applications and (3) the manufacturer (as appropriate). Please be advised that when mentioning a manufacturer, this mention is not a recommendation of that manufacturer, his products, or his business practices. It is simply included as a courtesy to the reader in locating these items.

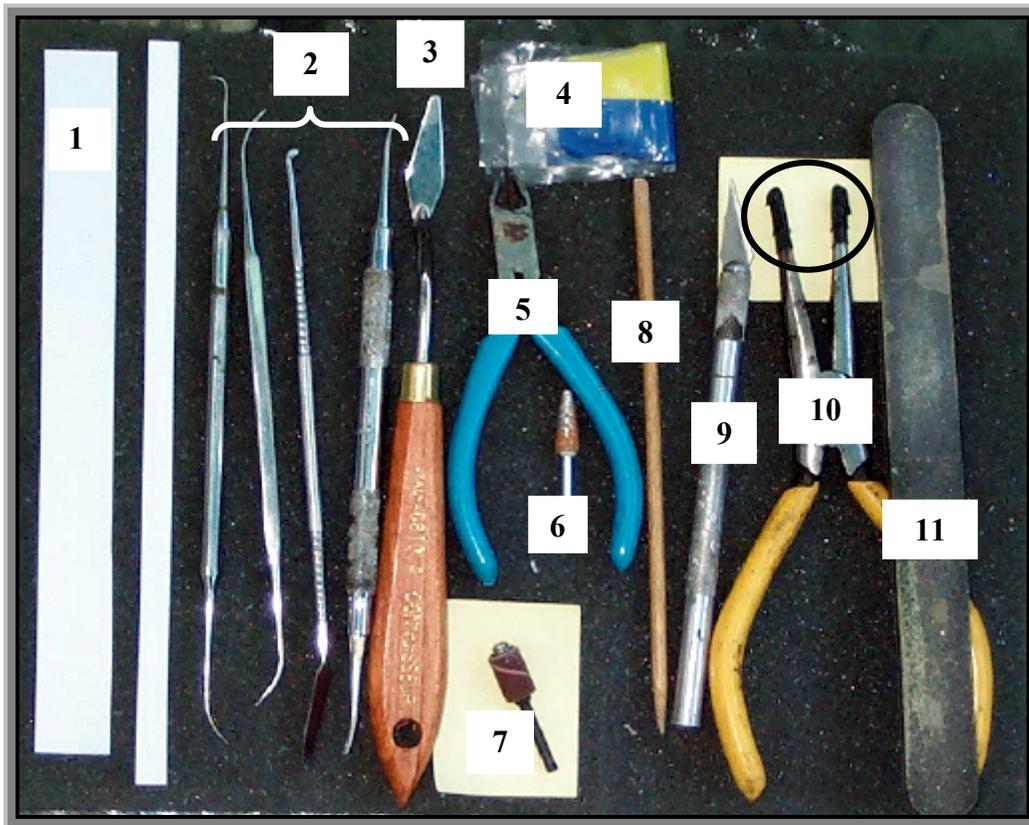


figure 2. Tools of the Trade

Item #1 are strips from sheets of *soft* styrene plastic. This styrene *must* be 'soft' so that it can bend and be 're-shaped' to any contour. For 28mm conversions, two sizes are useful; .020" thickness and .012" thickness. The .020" thickness is useful for belts and straps, while the .012" thickness can be used to 'lay' strips of segmented 'armor' and the-like. Both sizes can be used as a 'cutout form' to provide the basic shape to 'build' additional equipment/uniform modifications onto the figure. Both of these sizes are manufactured as 7.6x12.6" White Styrene sheets and marketed as/by *Raboesch Super Sheets* (Netherlands). These sheets are available in most good hobby/model stores.

Item #2 are various dental tools that, for the main, the author has collected from his dentist over the years. These tools can be used to define detail and to ‘smooth’ surfaces on green/gray/white/brown ‘stuff’ (modeling medium) during the modification process. Recently, several manufacturers have made these tools available at hobby/model shops and on Internet sites.

Item #3 is a thin and flexible painting ‘spatula’. When wetted with saliva, this item can be one of the best smoothing tools available (second only to ‘the finger’) when working with your modeling medium. A variety of shapes and sizes of these tools is available from/as **Connoisseur** (Italy). The author uses models 6810 4 (pictured) and 6810 8.

Item #4 is a ribbon of ‘green stuff’ and is one of the primary ‘modeling medium’ of the industry. The author has been working with this medium since the early 1980’s when it was sold ‘over the counter’ as Plumber’s Epoxy. It consists of a ‘dual’ ribbon of yellow and blue which, when combined (mixed) produces a green modeling medium for figure design and/or conversion. The author uses ‘green stuff’ to (1) add/alter/design details and ‘fixtures’ on miniature figures, (2) as an ‘epoxy-glue’ to affix modifications to miniatures/models, and (3) as a ‘gap’ filler. Any serious modeler should learn to work with this or similar medium for conversions. The ‘green stuff’ medium is currently sold by the original manufacturer by/as **Kneadatite**® and is available in *Blue/Yellow* (medium compound), *Brown/White* (hard compound – sands much better), and *Blue/White* (soft compound) ribbons. If you purchase the 3.52 oz ‘canister’, cut off what you will use in the immediate future and put the rest in the freezer! It will extend the life cycle ‘indefinitely’. Similar products are also marketed by **Games Workshop** as *Epoxy Putty* and by **Amazon Miniatures** as *Grey Matter Sculpting Putty*.

Item #5 is a small wire cutter (clipper) commonly known by the slang term ‘a pair of dikes’. It is used to cut metal. These wire cutters are available from any general-purpose hardware store.

Item #6 and *Item #7* are Dremel® tool ‘fixtures’. Both fixtures are used to remove unwanted detail and metal from the figure. *Item #6* is a grinding post; *item #7* is a sanding band (120 Grit). Dremel® ‘fixtures’ are available at most hobby/model shops.

Item #8 is a thin wooden shaft, similar to a ‘skewer stick’, with one end ‘pointed’ and the other end ‘squared off’ and tapered to a ‘flat’ surface. This is the author’s ‘tool of choice’ for applying and distributing the modeling medium (green stuff) on the figure, ‘rolling/pushing’ it into place, and obtaining an initial ‘semi-smooth’ surface. This tool works best on the modeling medium when wetted with saliva. Wooden shafts similar to this one may be purchased from artist supply retailers that support ‘clay’ sculpting. This tool is simply called *the stick* throughout the article.

Item #9 is a metal handled scalpel, hobby knife or Xacto® tool. The sharp blade is used to ‘trim’ away excess detail and figure flash. All hobby/model shops sell this tool.

Item #10 is a common pair of *needle-nose* pliers, with the pincher ends covered with electrical ‘shrink tubing’ so as to ‘blunt’ the ‘teeth grip’ of the pliers. This tool is used to gently ‘grasp’ hands, arms and the-like in order to provide the necessary leverage to bend

and twist the figure into a new position. The pliers are available at all hardware stores. The shrink tubing may be purchased at most electronic supply retailers.

A *note* on ‘shrink tubing’. This item is made to ‘shrink’ when heat is applied. It’s primary purpose is to tightly ‘bind’ cable/wire ‘runs’ in the electronics assembly industry. To ‘blunt’ the teeth of the pliers, simply place an appropriate sized tube ‘over’ the teeth, and ‘heat’ the tube with a match, lighter, or even a hair dryer. The tubing will ‘shrink’ to-fit! Place a second tube over the ‘fitted’ first tube and repeat the heating process. The author has found that two ‘layers’ of shrink tubing works best to ‘blunt’ the teeth.

Item #11 is a sanding board that contains four ‘graduated’ grades (grits) of sanding surface; two grades on one side and two on the other side. This sanding board is used to ‘smooth’ flat surfaces, separate weapons, original shield designs, et al. Sanding boards can be purchased at some model retailers.

Other useful items not illustrated in figure 2. include; the Dremel® tool motor assembly, a hand cutting saw (‘hack’ or hobby saw) with fine blades, rolls of various thickness copper sheets, ‘super’ glues, a pin vice with various size drills-bits, various lengths and thickness of ‘piano’ wire, and various shaped small files. See figure 3.



figure 3. More Tools

Figure Conversion – An Overview

Figure conversion techniques may tentatively be classified as *Beginner*, *Intermediate*, and *Advanced*. Although these categories are somewhat arbitrary, they serve well for this article. The author defines each of these classifications as;

- The ***Beginner*** category consists of ‘non-surgical’ modifications. Simply put, a *non-surgical modification* is a figure change where *nothing* ‘leaves the figure’ during implementation (no-saw, no ‘hack’, no ‘cut-and-pin’ modifications). Some *Beginner* conversion examples include; (1) equipment ‘stylization’ (changing the shape of a helmet, adding a ‘rim’ and/or ‘boss’ to a shield), (2) “bend ‘n’ twist” repositioning, and (3) equipment additions (belts, skirts, shields, weapons).
- The ***Intermediate*** category consists of modifications made using ‘minor-surgery’ techniques. *Minor-surgery* includes: (1) cut-pin-and-reposition of arms, hands, and heads; (2) modifications to the upper torso; and (3) ‘green stuff’ work limited to *rebuilding* or *modifying* on the original ‘frame’.
- The ***Advanced*** category consists of modifications made using ‘major surgery’. *Major surgery* includes; (1) torso and leg repositioning and (2) *original* ‘green stuff’ design of limbs, torso, and /or face.

Most ‘artistically challenged’ wargamers (including the author of this article), with patience and practice, can successfully implement both the *Beginner* and the *Intermediate* level techniques. These are the techniques used by the figure *technician*. However, the *Advanced* techniques are best left to the natural *artist*. This article presents only *Beginner* and the *Intermediate* level techniques for figure conversion.

This section begins by presenting a detailed step-by-step guide through the conversion process, implementing both Beginner and Intermediate-level techniques. This ‘first conversion’ contains the lion’s share of ‘how-to’ detail. Following this example, several figure conversion results are viewed, accompanied by an overview of the basic techniques required to perform each conversion. Any ‘new’ techniques not described by the first (step-by-step) conversion will be detailed, as necessary.

Figure Conversion – A Step-by-step Guide

Introduction to the Project

This section contains the “lion’s share” of the ‘how-to’ information in this article. The goal of this section is to produce the figure pose illustrated in figures 4A. through 4C. This figure was modified using a combination of several Beginner-level and several Intermediate-level conversion techniques. Each conversion technique will be described and illustrated, in sequence, as the conversion process is explained.



figure 4A.



figure 4B.



figure 4C.

Step1. Preparing the Figure

With a 'hack' or hobby saw, remove the quiver, the head, and the right arm from the figure. Be careful, here, to cause minimum damage to any of these 'parts'! It's better to slice the figure 'frame' (body), because the torso will be rebuilt in this project. Once removed, place the head and the quiver in a container or zip-lock 'baggie' so that you won't lose them.

Using a Dremel® tool and the sanding band/grinding post 'fixtures', remove the belts from the figure. Don't be 'shy', here; it's time for the 'butchers' to really shine!

Once the belts have been removed, super-glue the arm into the position illustrated in figure 5A. and figure 5B.



figure 5A. Prepared Figure (side)



figure 5B. Prepared Figure (back)

Now that the figure is prepared, it's time to get the *technician* prepared. Continue on to **Step 2.** on page 12.

Step2. Preparing the Technician

What a mess!! Take a look at the ‘butcher job’ you’ve just produced ... you’ve just ruined that figure and wasted your \$\$!! Bummer!!

But wait, all is not lost. This figure can and will be restored to a ‘work of art’ that will ‘beautify’ any NKE unit on the table. The restoration will be accomplished by two means; (1) green stuff and (2) an understanding of the *torso Bib*. Green stuff (or similar) will be the ‘restoration medium’; the ‘torso Bib’ is the design guideline for this restoration.

The torso Bib - a stylized approach to torso design. The author is a firm believer in the following concept;

If ya can’t ‘see’ (visualize) it, ya can’t sculpt it!

Hence, the ‘torso Bib’ and the ‘flat design dummy’. *torso Bib* Is a term that the author ‘coined’ several years ago to provide ‘conversion wannabees’ with a ‘starting point’ to visualize and design a ‘stylized’ shape that surrounds the upper torso. This shape starts from the lower pectorals (front), up and around the shoulders (top), and down and around the shoulder blades (back). figure 6. Illustrates the simple ‘geometry’ of this shape in one dimension.

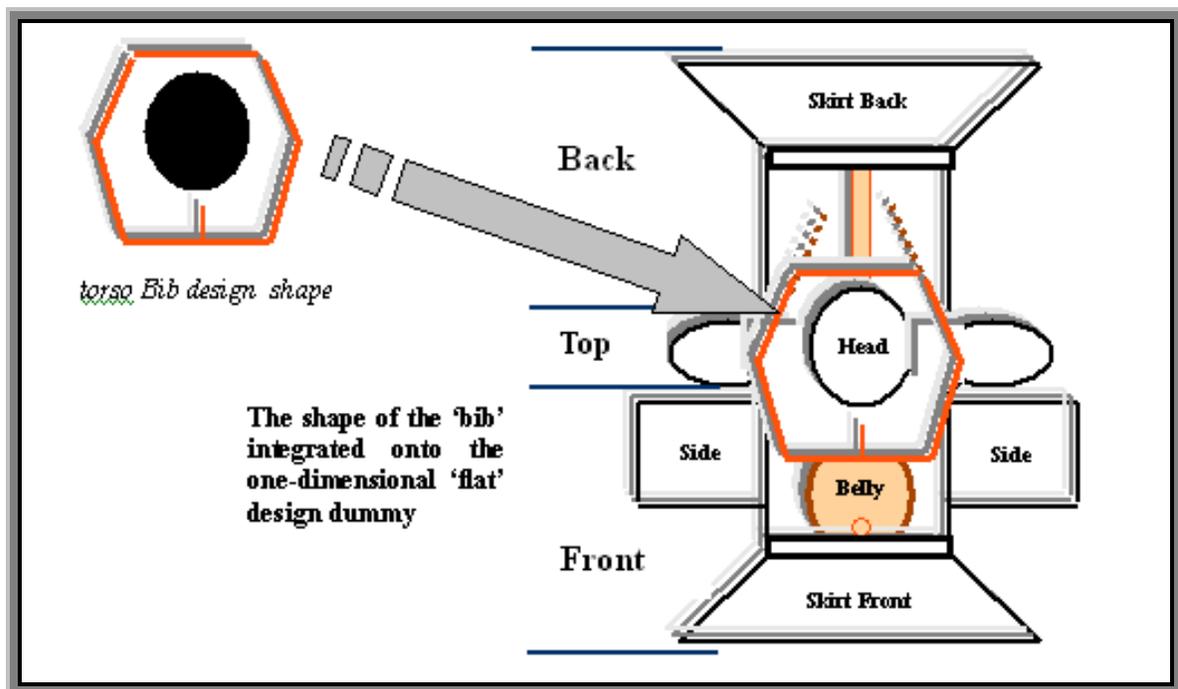


figure 6. The *torso Bib* and the *flat design dummy*

Viewing this flat design dummy ‘from the front’ yields the illustration in figure 7.

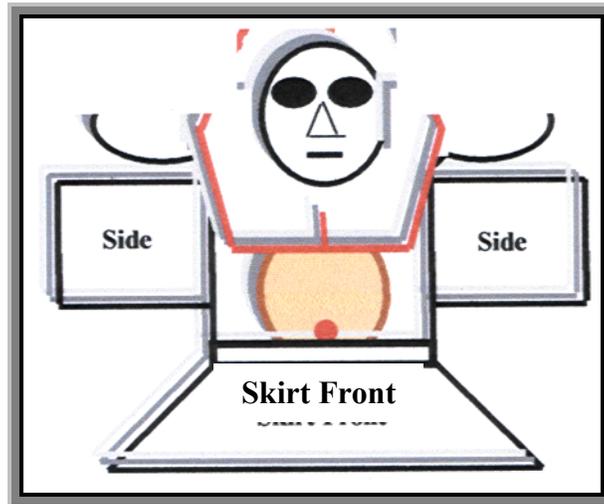


figure 7. Front View of flat design dummy

It is the author’s firm conviction that any serious conversion technician *must* master this basic shape to be successful with most intermediate-level conversions. Look at this shape; visualize it; go onto the astral with Shirley if that helps; meditate on it, sleep on it; whatever it takes, *put this shape firmly in your mind!*

Working with the ‘Green Stuff’. It is beyond the scope of this article to provide a tutorial on the many aspects of this common design medium. However, if you are relatively new to using this ‘stuff’, the following practice exercise, which has proven helpful to others in the past, may help you as well.

1. Trace the following form onto a piece of hard styrene plastic (.040” thickness or so), and cutout the form. Cutout the shape of the head and glue it in place. See figure 8. You have just produced a *flat practice dummy*. What you are going to do is to use the ‘green stuff’ to build up this dummy to include all of the features and stylized ‘contours’ illustrated in figure 7.

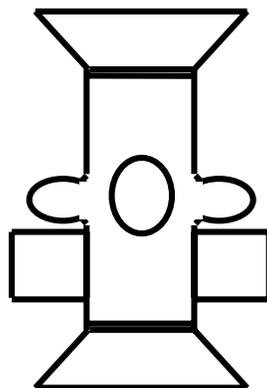


figure 8. Flat Practice Dummy

2. Cut off equal amounts of yellow and blue from the dual ribbon of green stuff and, using your fingers, mix the colors together until you obtain a single piece of green putty. How much should you mix up? Don't know. *Trust the force, Luke ...*
3. Separate some of the green stuff from the 'mixed mass', roll it into an oblong shape, and stick it onto the dummy diagonally, from the lower right (facing) side of the dummy, up and over the left (facing) shoulder, and down the back to the skirt. See figure 9.

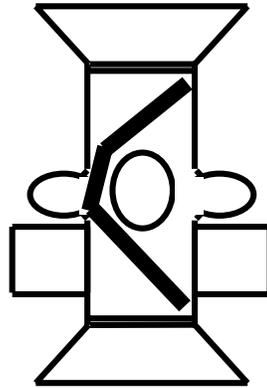


figure 9. Stick on the 'green stuff'

4. Take your index finger and wet it with sylvia. Using this finger, spread the green stuff evenly over the entire torso. When necessary, use *the stick* (item #8, page 7), making sure that it has been wetted with sylvia as well.
5. Once the green stuff has been distributed over the figure, experiment with your tools to obtain a smooth surface. The finger is the best 'tool' to obtain this, although you might want to experiment with the 'spatula' (item #3, page 7). Work from the front to the back, displacing any excess green stuff onto the back skirt.
6. Using the flat end of *the stick*, mark out the shape of the *Bib* and of the *Belly*.
7. Begin 'contouring' these shapes onto the dummy. You have about 30 minutes of work time to complete the contours.
8. Repeat this entire practice exercise until you can produce a 'near flawless' result at-will.
9. Now you are ready to try the 'real thing' in three dimensions. Continue on to **Step 3.** on page 15.

A note on the *Green Stuff*. In the author's experience, the 'working time' for this medium is 30-to-45 minutes. The author applies and 'smoothes' the stuff in the first 10-to-15 minutes and then adds the 'detail' about 20 minutes after 'mixing'. The setup time is 24 hours, although this can be accelerated to about 5 hours if you place the figure under a 100 watt lamp for that time (heat 'speeds up' the cure time).

Step 3. Applying the Green Stuff

Cut off equal amounts of yellow and blue from the dual ribbon of green stuff and, using your fingers, mix the colors together until you obtain a single piece of green putty. Lay a 'diagonal' strip of this putty onto the figure as you did in the practice exercise (see figure 9.).

Using you wetted finger and *the stick* distribute and smooth the medium, starting at the front, working around the top and sides, and then down the back towards the rear skirt. See figures 10A. and 10B.



figure 10A. Initial Application (front)

figure 10B. Initial Application (back)

Note that the 'excess' medium has been move down onto the rear skirt where it can be easily 'smoothed' and/or removed at-will.

Continue the conversion with ***Step 4.*** on page 16.

Step 4. Shaping the torso

Using the wetted flat end of *the stick*, indent the shape of the *torso Bib*. Take this same tool, apply at an angle underneath the *bib* outline, and gently ‘pull down’ the excess green stuff to begin the contour process. ‘Smooth’ your work with your wetted index finger as you ‘pull down’ each section underneath the *Bib*. For smoothing on the sides of the torso, try the flat end of *the stick* or the spatula.

Once the *torso Bib* is shaped and contoured, use the wetted flat end of *the stick* to indent the shape of the *Belly*. ‘Pull away’ the excess green stuff from this shape with *the stick* and smooth the contour. The *Belly* contour should be ‘subtle’, so subtle that it’s almost ‘unnoticeable’. With the sharp end of a toothpick or dental tool, give the figure an ‘innie’ belly button. And don’t forget to ‘sculpt-in’ the ‘back-bone’ recess running down the center of the back!

Now it’s time to shape/re-shape the ‘belt’ or ‘draw string’ at the top of the skirt. This task will probably require several tools, including differently-shaped dental tools, a sharp-bladed hobby knife, and the flat end of *the stick*.

When the initial contouring and detail is complete, let the green stuff setup for 12-to-24 hours. The conversion should look similar to figure 11A. and figure 11B.



figure 11A. Initial Contours (Front)



figure 11B. Initial Contours (Back)

While waiting for the green stuff to cure, clean up and rebuild the quiver.

Continue the conversion with **Step 5.** on page 17.

Step 5. Stylizing the Pectorals

This step will modify the 'shape' of the pectorals so that they form an angle from the bottom up towards the top. The shape of this angle, from the side, is illustrated in figure 12.

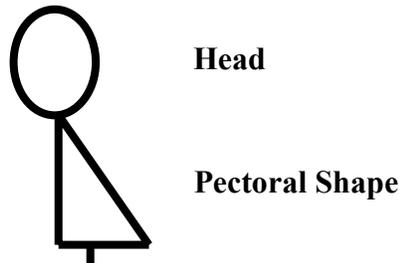


figure 12. *Stylized Pectoral Shape*

To accomplish this stylized shape, cut off and mix up a tiny amount of green stuff and place a small piece at the bottom of each pectoral muscle. Be careful *not* to let the medium 'fill-in' the separation contour between pec and belly. Using your wetted finger and/or *the stick*, gently angle the green stuff up toward the head area. Smooth carefully to integrate the new shape into the existing conversion. figure 13A. and figure 13B. Illustrate the stylized conversion.



figure 13A. "Chesty" One



figure 13B. "Chesty" Two

Let the green stuff cure for 4-to-8 hours and then continue to *Step 6.* on page 18.

Step 6. Strap and Quiver

Cut a thin strip from the .020" thick soft styrene. This strip will be used for the 'strap' to 'sling' the quiver across the back of the figure. How wide should I make the strap? Don't know. *Trust the force, Luke ...*

Super-glue the quiver onto the rear skirt, across the buttocks-area. Let the super-glue cure and then take a small amount of green stuff and fill any gaps between the skirt and the quiver. You'll need to use a dental tool and *the stick* to effectively accomplish this. Let the green stuff cure for at least two hours. Since the super-glue is *not* a metal-to-metal contact, the real strength of the bond is provided by the green stuff 'filler'.

Practice 'laying' the styrene strap from left side back of quiver over the shoulder, down the front/side of the figure, and onto the right-side (back) of the quiver. Practice this until you can do it repeatedly and get it 'just right'. Then take the styrene 'strap' and, starting from the back, super-glue the strap to the left side of the quiver and up the back. Stop short of gluing the strap over the shoulder. Let the glue cure for about 10 minutes.

Now super-glue the strap up-and-over the shoulder, being careful to apply sufficient pressure on the strap to 're-contour' it to fit the body shape. Let the glue cure for about 10 minutes.

Finally, super-glue the strap over the chest and down under the arm to the 'right side' of the quiver. Again, be careful to apply sufficient pressure on the strap to 're-contour' it to fit the body shape. Let the glue cure for about 10 minutes and then use green stuff to 'join' the strap to the quiver and to fill-in any gaps. figure 14A. and figure 14B. Illustrate the results of this step.



figure 14A. Strap/Quiver (Back)



figure 14B. Strap/Quiver (Front)

Let the figure setup over night and then continue with **Step 7** on page 19.

Step 7. Pinning the Head and Rebuilding the 'Helmet'

Cut about a one inch piece of .020" diameter 'piano wire'. With a Pin Vise and a .016" diameter bit, drill a hole into the top center of the figure and in the center bottom of the detached head. Since the wire is slightly thicker than the hole, it will have to be 'forced' into the hole using pliers and a 'twisting' motion. Glue the wire into the top of the figure. See figure 15.

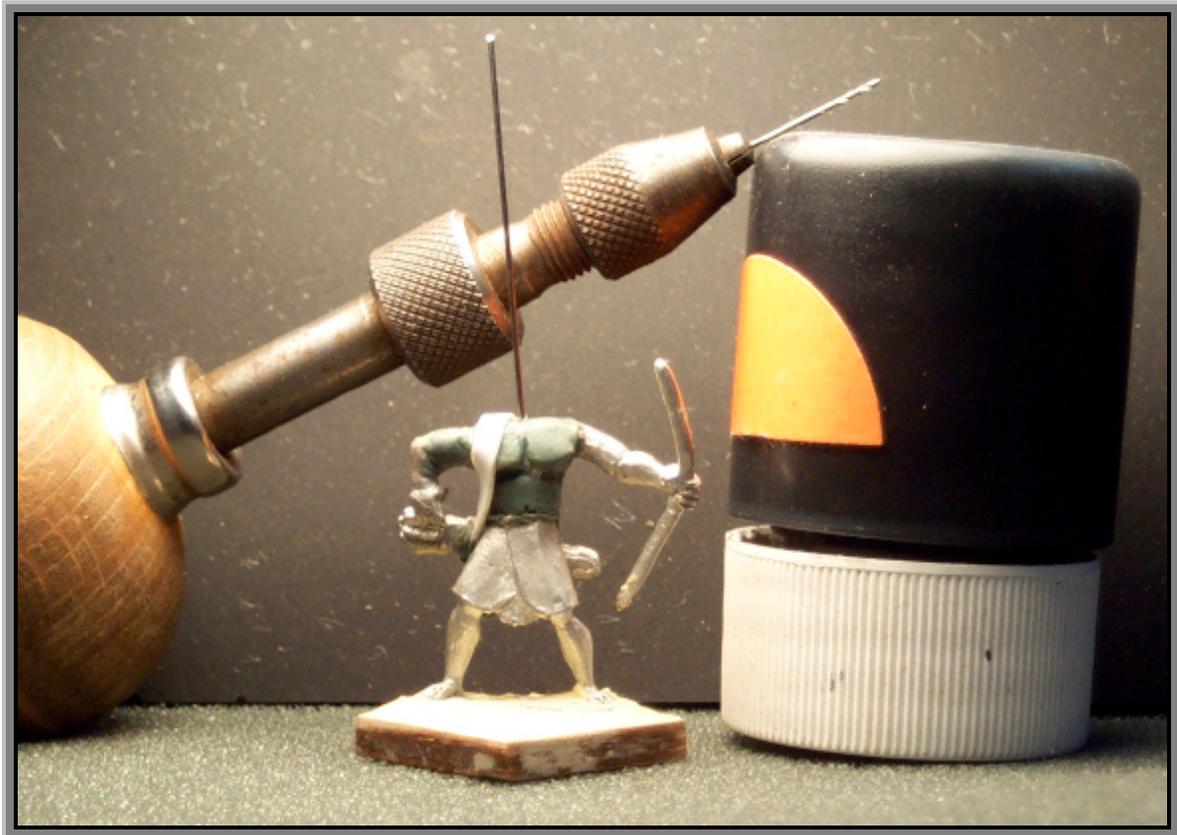


figure 15. "Pinning"

Cut the wire so that the head *just fits* onto the body, and super-glue in place. Let the glue cure for about 5 minutes. Fill in around the head with green stuff, using a small dental tool to fill-in those 'hard to reach' places.

Rebuild the headscarf with green stuff to suite your tastes, smooth with the *finger* and let the figure setup overnight. See figures 16A. and 16B. (page 20) for the semi-finished conversion. Note that for this conversion, the author has 'stylized' the headscarf into a padded 'textile' helmet.

Continue on to **Step 8.** on page 20.

Step 8. Final Touchup

Take a few digital pictures of your conversion. Take a close look at the photos. What you're looking for is areas that need repair, cleanup, smoothing and the-like. See figures 16A. through 16D.



figure 16A.

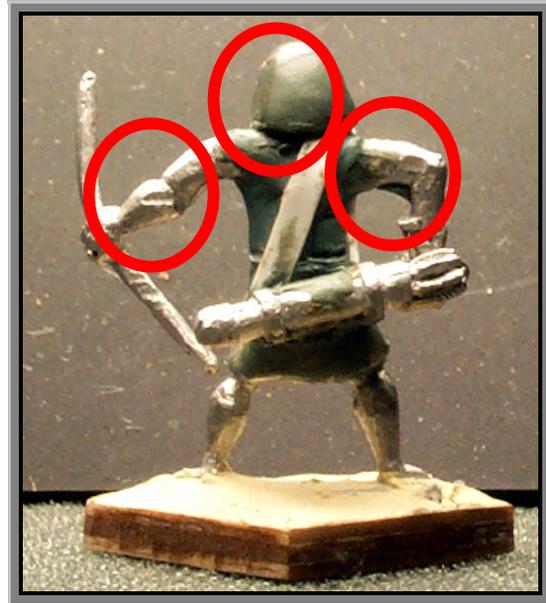


figure 16B.

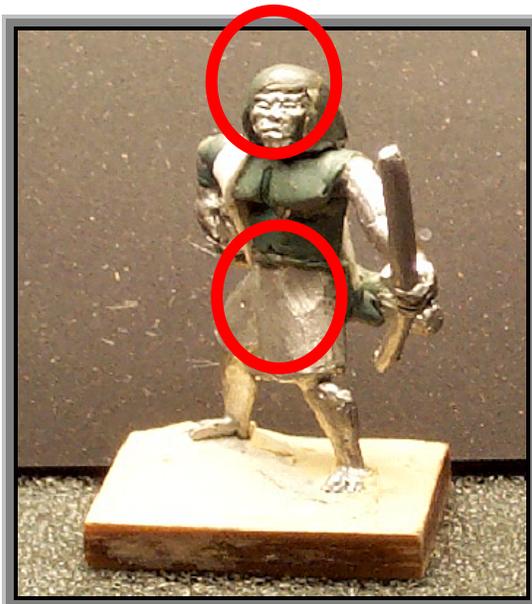


figure 16C.



figure 16D.

Continue on to page 21 for 'Cleanup Requirements'.

Cleanup Requirements.

Figure 16A. Figure cleanup requirements as indicated in figure 16A. involve adding some green stuff to fill-in and smooth the skirt.

Figure 16B. Figure cleanup requirements as indicated in figure 16B. involve green stuff fill-in and smoothing on the left forearm and the right tricep. Also, the back (bottom) of the ‘helmet’ should be ‘squared off’ carefully using a Hobby knife.

Figure 16C. Again the need to ‘fix’ the skirt is evident from this figure. Also, the front of the ‘helmet’ *may* need some careful and light sanding with a very fine grade of sandpaper. In cases like this, it’s best to paint the figure first, and then determine if the sanding is required.

Figure 16D. Again the cleanup requirements for green stuff fill-in and smoothing on the left forearm and the right tricep are evident. Also, the mid-to-lower back/side seems a little rough and require some careful ‘smoothing’ with sandpaper. In order to reach this area, you’ll have to ‘improvise’ a sanding tool. See figure 17. This tool is nothing more that a strip of sandpaper ‘rolled around’ a toothpick while being fixed into place with Rubber Cement.

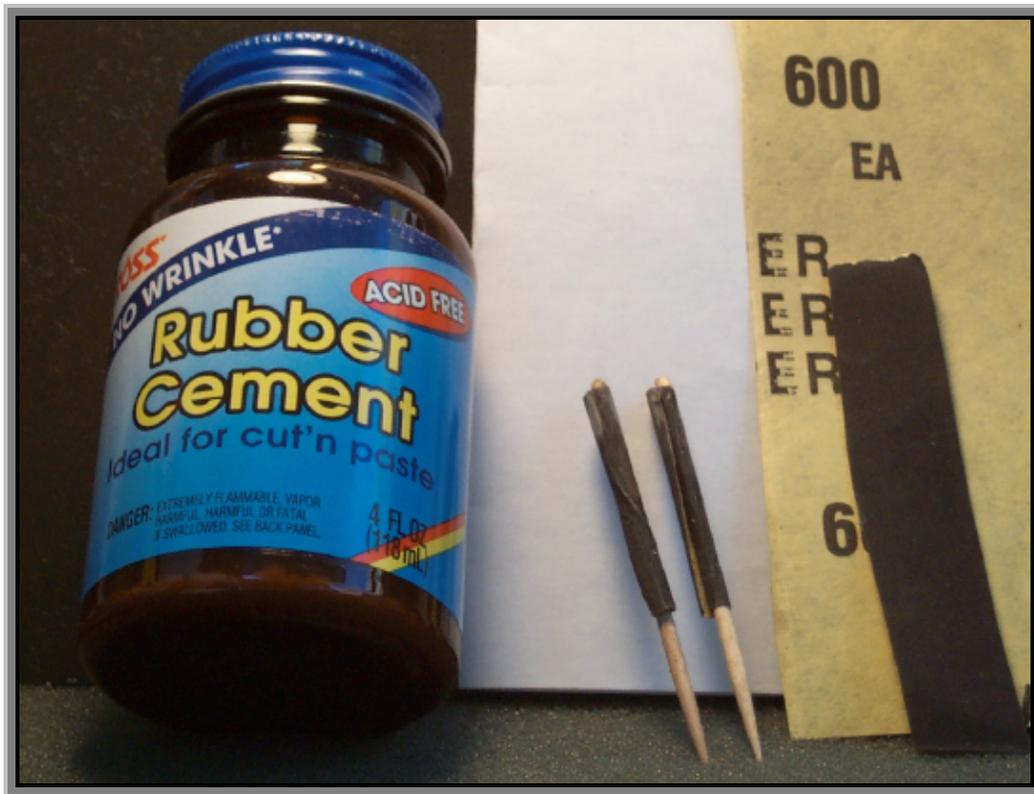


figure 17. Improvised ‘bit-sander’

This concludes the step-by-step guide to figure conversion. The author completed this figure conversion in about 90 minutes (excluding setup/curing times). Additional conversion results are presented on the following pages of this article.

Figure Conversion Examples – Beginner

This section presents three simple conversions using *Beginner-level* techniques.

Beginner Example 1 – Front-rank Pose. This simple conversion ‘technique’ adds a sidearm weapon to the converted figure. The subtle addition of a weapon can significantly enhance figure variety by (1) adding a different weapon to each figure, (2) by placing the same weapon at/on a different position of the figure, and (3) a combination of a different sidearm at a different position.

The New Kingdom Egyptian (NKE) warrior was armed with one of three common sidearm weapons; (1) the khepesh (khopesh) or ‘sickle sword’, (2) a small axe, or (3) a knife blade. For the conversions in this article, all three weapon-types were obtained from the Hourglass Miniature’s *Weapons Pack*, with a couple of QT ‘Biblical’ axes added into ‘the mix’.

figure 18A. and 18B. Illustrate the original figure pose that now has an Egyptian axe.



figure 18A. Axe Rear View

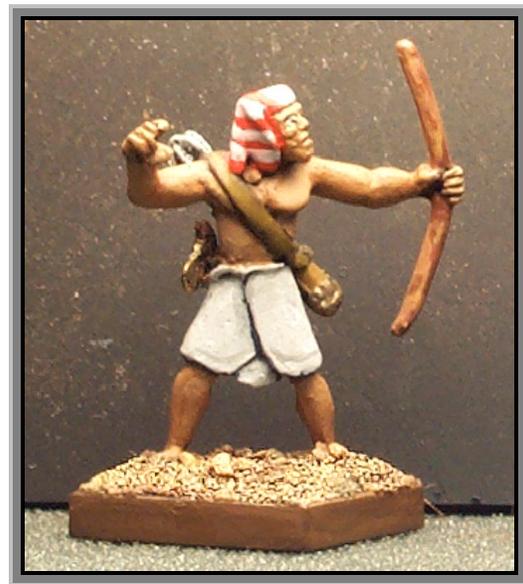


figure 18B. Axe Front View

Sidearm addition to the NKE figures is a three-step process;

- (1) determine where and at what angle the weapon will be added,
- (2) super-glue the weapon into place, and
- (3) add and ‘phase-in’ the skirt ‘belt’ or ‘draw-string’.

For this conversion, the ‘belt’ or ‘draw string’ was made from 26AWG tinned copper wire. The other conversions in this article formed the ‘belt’ from 28AWG or 30AWG wire.

Beginner Example 2 – Rear-rank Pose. figure 19A. and figure 19B. Illustrate the second conversion, which is nothing more than a “bend ‘n twist” example where the bow-arm has been ‘forced’ downward and towards the back and the ‘free-arm’ has been bent ‘up and backwards’. In keeping with the theme of the article, this conversion provides an appropriate rear-rank pose. Both “bend ‘n twist” operations were accomplished with simple ‘thumb pressure’. Note the addition of the knife blade across the back, following the ‘lines’ of the quiver.

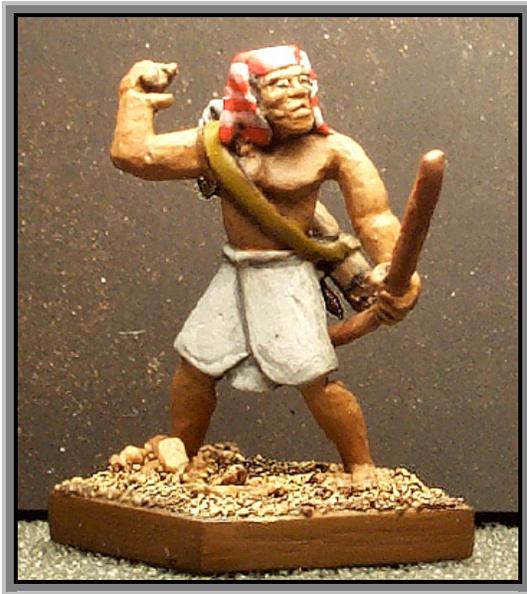


figure 19A. Rear-rank Pose

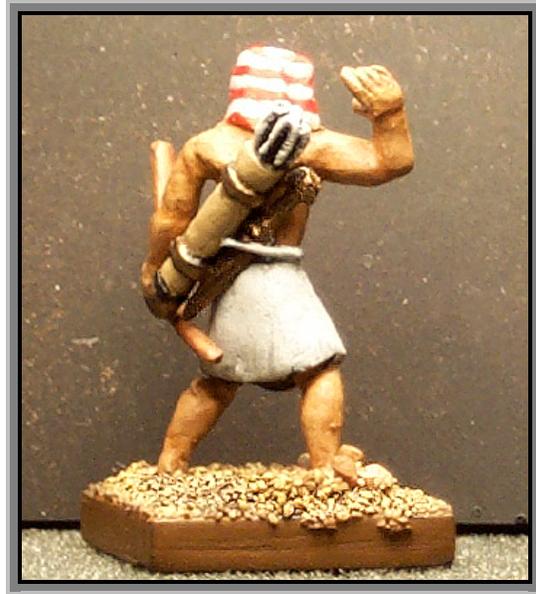


figure 19B. Rear-rank Pose

Time to complete: ~5 minutes

Beginner Example 3 – Front-rank Pose. figure 20. Illustrates the third conversion, which is a combination of (1) a “bend ‘n twist” modification where the bow-arm has been ‘forced’ upward at an angle, the ‘free-arm’ has been bent ‘inward’ at the elbow, and (2) a uniform modification that added a ‘sash’ to the skirt. In keeping with the theme of this article, this conversion provides an appropriate front-rank pose. Note the addition of the small Egyptian axe to the side (waist) of the figure.

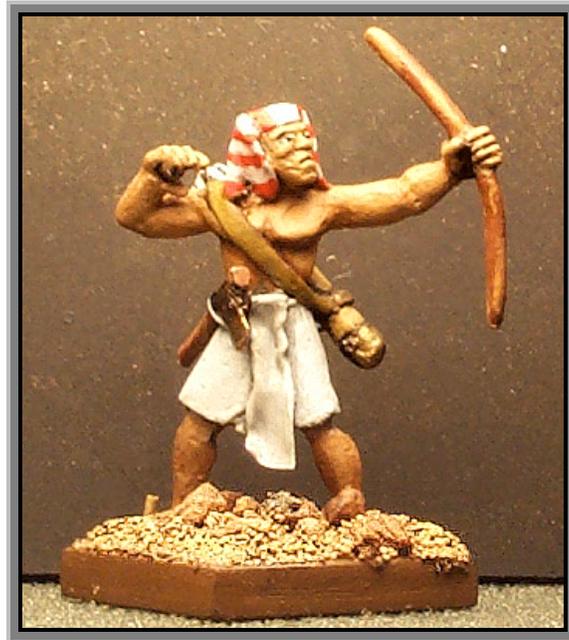


figure 20. Front-rank Pose

The re-positioning of the ‘free-arm’ required a small ‘incision’ by a hobby saw (with a fine blade) in the ‘fold’ opposite the elbow. This ‘incision’ allowed a more ‘radical’ and defined bend of the forearm towards the upper arm.

The ‘sash’ addition to the skirt was made from a strip of light copper that was cut ‘to-fit’ and glued into place. Copper was selected in order to be able to add ‘creases’ and ‘folds’ to the sash. The light copper sheet (roll) was obtained as part of an embossing kit produced as/by *ArtEmboss*®.

Time to complete: ~15 minutes

Figure Conversion Example – Intermediate

figure 21A. and figure 21B. Illustrate a figure conversion based upon the cut-pin-and-reposition technique (Intermediate). The ‘free-arm’ was removed with a hobby saw at the shoulder and re-attached to the figure in a ‘drawing the bow string’ position. In keeping with the theme of this article, this conversion provides an appropriate front-rank pose. Note the addition of the small axe across the back, following the ‘lines’ of the quiver.



figure 21A. Front-rank Pose



figure 21B. Front-rank Pose

Although this is a simple Intermediate-level conversion, it does require that (1) the arm be *pinned* back onto the body, and (2) the shoulder-to-arm gap (which is a considerable distance) be filled and rebuilt with green-stuff.

The *pinning* process requires the use of a Pin Vise/drill-bit to drill a small hole in the body (shoulder/arm socket) and in the detached arm. The diameter of the hole should be less-than-or-equal-to the diameter of the ‘piano wire’ that will ‘fix’ both parts together. A small piece of this piano wire is cut to a length about twice the depth of the arm-socket hole. This piece of wire is then ‘super’-glued into the arm socket and let stand until ‘cured’. Then, through trial-and-error, the piano wire is clipped until both parts ‘fit together’ when the wire is inserted. The detached arm is then super-glued into place. In this conversion, the author chose *not* to rebuild/reposition the shoulder (see Combined Example #4, page 28) to implement this pose.

Time to complete: ~30 minutes

Figure Conversion Examples – Combined

This section provides five conversion examples that require a combination of both the *Beginner*-level and the *Intermediate*-level conversion techniques.

Combined Example 1. See figure 22A. and figure 22B. This first combined example illustrates a figure conversion based upon the combined techniques described in the step-by-step guide. Note that the right (free) arm was removed and ‘pinned’ into place, the left (bow) arm has been repositioned using ‘thumb’ pressure, and the quiver ‘strap’ has been placed over the left (bow-arm) shoulder in this pose. Note the addition of the knife blade to the right side (at the waist) of the figure.



figure 22A. Rear-rank Pose



figure 22B. Rear-rank Pose

In keeping with the theme of this article, this conversion provides an appropriate rear-rank pose.

Time to complete: ~90 minutes

Combined Example 2. See figure 23A. and figure 23B. This second combined example illustrates a front-rank figure conversion based upon some of the combined techniques described in the step-by-step guide. Note however, that no body ‘parts’ were removed/replaced and that the rear (free) arm was repositioned using ‘thumb pressure’. Note that the quiver ‘strap’ has been placed over the left (bow-arm) shoulder in this pose.

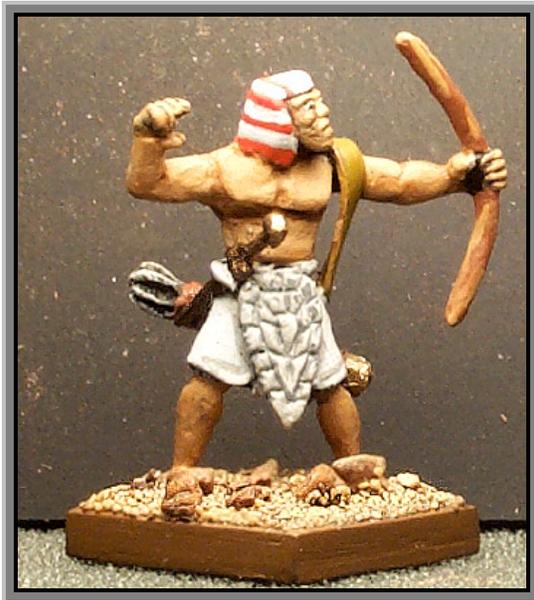


figure 23A. Front-rank Pose



figure 23B. Front-rank Pose

Note the addition of the padded armor “triangle” protecting the lower abdomen and groin area. This armor was produced by cutting out a ‘form’ from the .016” thick styrene plastic, gluing the form in-place, and then building the shape/contour of the padded (textile) armor out of green stuff. See figures 24A. and 24B.

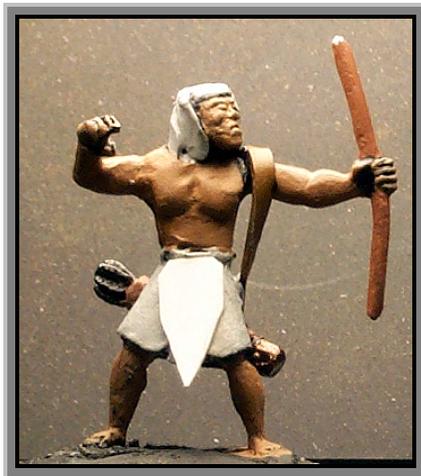


figure 24A. Armor Form

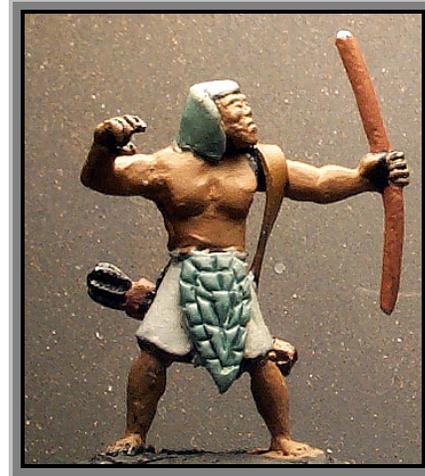


figure 24B. Armor Green-stuff

Time to complete: ~50 minutes

Combined Example 3. See figure 25A. and figure 25B. This third combined example illustrates a rear-rank figure conversion based upon the combined techniques described in the step-by-step guide. Note that the right (free) arm was removed and ‘pinned’ into place and the quiver ‘strap’ has been placed over the right (free-arm) shoulder in this pose. In this conversion, the author chose *not* to rebuild/reposition the shoulder (see Combined Example #4, page 29) to implement this pose.



figure 25A. Rear-rank Pose



figure 25B. Rear-rank Pose

The notched arrow is a .020” diameter piece of ‘piano’ wire. The fletching is green stuff. The arrowhead was made from a piece of .050” diameter wooden dowel, drilled and glued onto the shaft, and cut/sanded to-shape. The arrowhead was ‘soaked’ in watered-down white glue several times throughout the process, and let stand until dry. See figure 26. and figure 27.



figure 26. Arrowhead Start



figure 27. Arrowhead Shaped

Time to complete: ~2 hours

Combined Example 4. See figures 28A. and 28B. This fourth combined example illustrates a rear-rank figure conversion similar to the third example illustrated by figure 25A. and 25B, with the addition of the padded armor “triangle”. The conversion is based upon the combined techniques described in the step-by-step guide. Note that the head has been repositioned so that it is looking ‘down’ along the angle of the arrow (cut-‘n’-pin). The headscarf has also been somewhat ‘stylized’ into a padded ‘textile’ helmet. Note that a ‘khepesh’ has been added to the right side (waist) of the figure.



figure 28A. Rear-rank Pose



figure 28B. Rear-rank Pose

This pose does differ somewhat from figure 25, in that the shoulder has been *rotated* so that the right (free) arm might reach across the body. In order to accomplish this, the shoulder must be rebuilt to reflect this 'rotation'. See figures 29A. and 29B.



figure 29A. Rotated Shoulder 1



figure 29B. Rotated Shoulder 2

The 'mechanics' of this modification are simple;

- (1) 'Trim' the original shoulder down somewhat and sand smooth.
- (2) Form a new shoulder using green stuff.
- (3) The shoulder should 'wrap-around' towards the front and end up with a flat, angled surface to which you'll attach the arm.
- (4) Practice with you shoulder; starting with you right arm at your side, place your left hand on your right shoulder. Now rotate your right arm up and across your body and note the 'rotation' of the shoulder. This rotated position is what you are trying to build here.
- (5) Once the shoulder has been rebuilt, the right arm must be 'pinned' in-place. Make sure that when you drill the pin hole in the shoulder, the hole is 'angled' into the metal of the figure 'frame' (body) in order to provide 'strength' to the pinned result.

Although the mechanics are easy (chop, sand, and green stuff build), the angle and proportions are the difficult part. You'll have to produce a shoulder that is 'just right' as to size and position. What size do I need? *Trust the force, Luke ...*

Figure 30A. and 30B. provide different angles of this rebuild.



figure 30A. Rotated Shoulder 3



figure 30B. Rotated Shoulder 4

Time to complete: ~3 hours

Combined Example 5. See figures 31A. and 31B. This fifth combined example illustrates a rear-rank figure conversion similar to the third example illustrated by figure 26A. and 26B, with the addition of the 'sash'. The conversion is based upon the combined techniques described in the step-by-step guide. Note that the shoulder has been rotated so that the right arm can cross over the body to pull the bowstring and notch the arrow. Note that a knife blade has been added across the back, following the 'lines' of the quiver.



figure 31A. Rear-rank Pose



figure 31B. Rear-rank Pose

Time to complete: ~1.5 hours

Unit Leader Conversion

figure 32A. and 32B illustrate the converted unit leader. This figure is wearing padded 'textile' armor and helmet, has a padded 'triangle' for lower abdomen/groin protection, and is carrying both a bow and a khepesh.



figure 32A. Unit Leader Front



figure 32B. Unit Leader Back

The steps required to perform this conversion, in sequence, were:

- (1) The arms were 'bent' into the desired 'pose' using 'thumb' pressure.
- (2) Both arms and the head were removed with the hobby saw.
- (3) The 'textile' body armor (made from a piece of .012" thick soft styrene plastic) was cut to-fit, 'scored' with a small stylus tool to represent the separation of the armor 'segments', and then super-glued in-place.
- (4) The arms were super-glued back onto the figure and the torso was 'rebuilt' with green stuff.
- (5) The quiver was pinned and glued across the hips and the strap of .020" thick styrene was 'formed' and glued appropriately.
- (6) The head was pinned into place and the headscarf rebuilt and stylized into a padded helmet.
- (7) The form for the padded 'triangle' was cut to-shape and glued onto the figure.
- (8) The triangle 'pad' was built up from green stuff.
- (9) The khepesh was glued into the right hand.

Standard Bearer Conversion

figure 33A. and 33B Illustrate the converted standard bearer. This figure carries the banner of Abydos; the 'djed' topped with a lunar disc and two plumes. His skirt has been 'girded up' around his waist for mobility. He carries an axe in his right hand.



figure 33A. Standard Bearer Front



figure 33B. Standard Bearer Back

This conversion began by bending the arms using small incisions with a hobby saw and then 'thumb' pressure to complete the positioning. See figure 34. The arms and the head were then removed. The straps were removed using the Dremel® tool and the inner skirt was removed using a hobby saw. See figure 35.



figure 34. Arms Positioned



figure 35. Figure Prepared

The arms and head were then ‘pinned’ and super-glued onto the figure ‘frame’. Next, the torso was reconstructed, the skirt rebuilt, the ‘belt’ or ‘draw string’ (26AWG wire) was glued around the top of the skirt, and the thin copper girding ‘sash’ cut to-shape and glued to the front of the skirt. Finally, the headscarf was reformed and ‘stylized’ into a padded helmet. See figure 36A. and 36B.



figure 36A. Green Stuff Front



figure 36B. Green Stuff Back

A hole was drilled through the left hand using the pin vice and the ‘djed’ plume standard (QT Models) was glued into place. As the final touch, the Egyptian axe was glued into the right hand. This completed the standard bearer conversion.

The Final Unit

The *goal* of this article was to take the same 12 figures and convert them into a single unit containing 10 unique rank-and-file figures, one captain, and one standard bearer. The *period* of the unit was defined as New Kingdom Egyptian, and the *theme* was specified to be unarmored archers with the front rank firing at the enemy and the rear rank in various poses ‘getting ready’ to shoot. The results of the conversion, or the ‘final unit’, are presented in figures 37. through 42.



figure 37. Final Unit Front View



figure 38. Final Unit Front View Alt



figure 39. Final Unit Rear View



figure 40. Final Unit Rear View Alt



figure 41. Front Rank Rear View



Figure 42. Rear Rank Front View

If you have enjoyed this article and would like to obtain a high resolution .PDF file of the article, contact the author at;

figureconvert_alternatives@yahoo.com

You'll have to provide a blank CD R/W and a self addressed, post-paid return mailer. The author will 'burn' a copy of the PDF onto the CD and return it to you.