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How to **GET AHEAD** in modeling

Convert a bust using a 3D-printed head

BY BRIAN WILDFONG

One of my favorite details from the 1990 film *Memphis Belle* is the headgear worn by the titular B-17's copilot. At several points in the film, 1st Lt. Luke Sinclair played by Tate Donovan has on a garrison cap with a pair of earphones casually pushed up on his temples. With that in mind, I bought a Young Miniatures 1/10 scale USAAF Fighter Pilot 1944 bust (No. YM1856) planning to convert it to depict a B-17 pilot like Sinclair. That required replacing the fighter pilot's leather helmet and goggles with the garrison cap and headset.

Replacing the entire head was the only real option, but I was stymied by the dearth of bare 1/10 scale heads on the market. Most available busts had headgear cast as part of the head, requiring complex modifications.

The advent of 3D-printing has opened a whole new world of custom aftermarket products, including detailed bare heads in many scales. Looking online, I discovered a beautifully printed head in a figure of Tom Cruise from *Top Gun: Maverick* offered by Scale Collectables that would be perfect for my conversion. All it took was a bit of preparation, minor sculpting, and the courage to dive in and try. Hopefully, the simple tools, basic materials, and logical steps I used will encourage you to convert an existing bust to a subject that fires your imagination. Good references for the technical equipment like the headset were essential. Fortunately, there are dozens of period photos of 8th Air Force crew and their equipment online. I also watched *Memphis Belle* about a dozen times; I justified it by calling it "research."

So, off with the kit-supplied head, which conveniently came separate in the Young Miniatures kit and on with the conversion!





1 I had Scale Collectables print just the head from the Maverick figure at 1/10 scale and test-fitted it on the Fighter Pilot torso with poster putty until I was happy with the position and angles. I noted a couple of places where I would need to do a little epoxy putty work to fill gaps between the head and the collar for his uniform shirt.



2 I temporarily mounted the head on a dowel that would serve as a handle while I modified it for the new headgear. I sketched a pencil line against the forehead to mark the approximate position of the cap's lower edge, then used a hobby knife and sandpaper to remove most of the hair above the line.



3 To begin the garrison cap, I roughly shaped a wedge of Apoxie Sculpt putty on top of the head with my fingers. A toothpick dipped in water and rolled against the putty shaped it; the tip added folds and seams. Finally, I used a water-damp paintbrush to smooth the putty and left it to harden overnight.



4 I made a ribbon of Apoxie Sculpt by rolling a blob of talc-covered putty inside a plastic sandwich bag with a hobby-knife handle. This ribbon was wrapped around the head, cut to length, and shaped with a dental pick and brush to form the outer flap of the cap with its piped edge. I sculpted a little extra hair to blend the cap into the head.



5 When the putty was completely cured and hardened, I smoothed it with a Scotch-Brite scouring pad, so the finish better matched the resin head and body.



6 I superglued the head to the body, pushed small worms of Apoxie Sculpt into gaps between the parts, and smoothed them to blend the neck and shirt collar.

PRO TIP

WHEN WORKING WITH LAYERS of two-part epoxy putty, it's critical to let the initial application cure completely before adding the next. Failure to do so risks damaging the underlying work as you press, sculpt, wet, and smooth the next layer. When it comes to producing award-winning figures, there are no shortcuts. So be patient and don't rush.



Change TACTICS for a SUPERIOR FINISH

Combine airbrush and hand-brushing techniques for realistic cloth, skin, and eyes

BY JOE HUDSON

When I started working on this story, I had just finished my first book, *Modeling Military Figures* (Kalmbach Media, ISBN 978-1-627-00939-3), and I thought I'd go in another direction. Something bright and colorful, like a superhero, TV or movie character, or something sci-fi. Most of my figure projects are military, so what better way to stretch my wings?

That was my thinking, but I'd also been refining my painting for more realistic results. Maybe trying to focus on that and jump genres was taking on a bit too much for one story. Maybe a bust, a character portrait would work better than going the superhero route.

Sure enough, as I was scrolling through websites, I came across a 200mm bust by 3D artist Sid Naique (www.sidnaique.com) of Joachim Phoenix as Napoleon Bonaparte for the 2023 Ridley Scott film. I thought this was perfect for some of the techniques I wanted to hone.

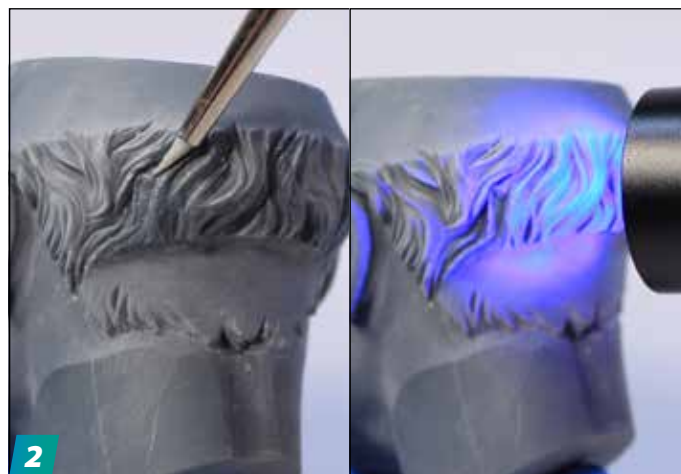


After receiving the 3D-printed Napoleon bust, Joe temporarily assembled the parts and noted the places that needed cleaning up before paint and assembly.

The bust's uniform represents the attire Napoleon wore at the Battle of Marengo, June 1800. I liked its simple, elegant appearance, without too many folds or creases to worry about, and plenty of space to show off the embroidery, lace, and, of course, the bust's face. Sure, it was historical and military, but it was also movie-related, so it fit with my original plans.

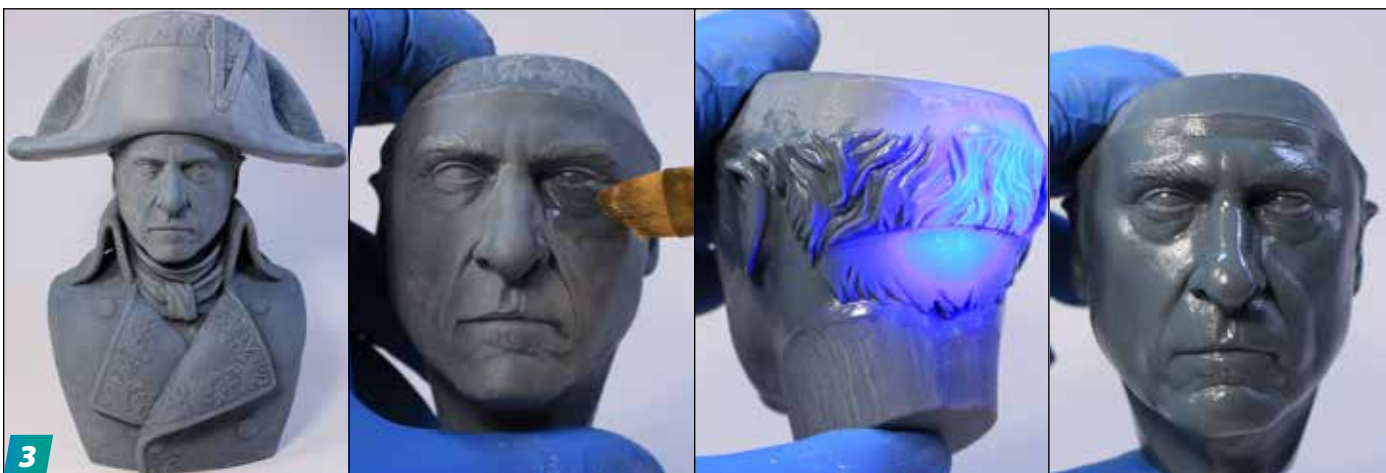
With the STL file purchased, I contacted Rise 3D Printing (www.rise3dprintingshop.com) to have the print made slightly bigger than its intended scale to showcase all the fine details.

The bust came in three parts: hat, head, and torso. For full disclosure, the STL file also included a head with sculpted pupils, but I didn't need that one because I wasn't painting it to look like a marble statue. I pieced the parts together to check the print quality and note places that would need cleanup and exactly how much I'd have to do before I could begin painting. As with every figure, there was prep work.



1 A cordless rotary tool and a small grinding bit make removing leftover support stubs easy. Go slowly and carefully, and don't press too hard while doing this work with because you don't want to gouge or put a hole in the resin.

2 I applied Phrozen Light Curing Putty to smooth areas where details were broken, removed, or marred. A silicone sculpting tool is perfect to help shape the putty. When the putty has been sculpted to my liking, I shined a UV light on it for 15 seconds to cure it.



3 As a final step after cleanup, I brush a thin coat of 3D-printer resin on all of the parts. Working in small sections, I will brush on the resin, cure it with a UV light, and then move on to another section until all the parts have been similarly treated. Once I am done with each part, I clean it off with 90% isopropyl alcohol and let it air dry.

Prepping the battlefield

Cleaning 3D-printed resin parts has some unique challenges versus parts in traditional resin kits. With 3D kits, there are no mold lines or air bubbles to correct. However, you do have to contend with layer lines, leftover supports, and broken support stubs.

There are pros and cons to both kinds of kits — that you can make yours at home if you own a 3D-printer is cool. I have built many traditional resin and 3D-printed kits, and I find them both fun.

To clean up 3D-printed parts, I use sanding sticks and pads of various grits, and a cordless rotary tool with a sanding drum and small grinding burrs. These tools are employed to *gently* remove supports and other blemishes without damaging or breaking the often fragile printer resin, **1**.

Inevitably, there will be areas that are chipped or worn away by removing printer

supports and general cleanup. To fix these problem areas, I use Phrozen Light Curing Putty (other brands are available and apply and cure similarly). It has the consistency of waxy petroleum jelly and hardens with the application of a UV light, **2**.

After grinding and sanding, I brush 3D-printer resin on the parts with a synthetic, flat brush. Working in small patches, I will apply the resin, then cure it with a UV light, and then repeat the process until the parts have all been covered. The layers must be very thin because you don't want to obliterate any detail. This step isn't absolutely necessary, but it is something I've found helpful in preparation for paint, **3**.

With all the parts similarly treated and after the brushed-on resin has cured, I wash the parts in 90% isopropyl alcohol and set them aside to dry, **4**.

Let's get painting

A large-scale bust like this required airbrushing to achieve the desired effect. I own a Gaahlari GHAD-68 and GHAC-98; the first is a pistol-grip airbrush that comes in handy for base-coating and painting larger areas with a .5mm nozzle, and the 98 helped out with detail work with a .38mm nozzle.

Of course, painting figures will always require hand-brushes, and I prefer the ZEM Brush 3200 series.

Before applying color, I airbrushed all the parts Tamiya Sky Grey (No. XF-19). I find Tamiya acrylics have good bite and won't rub off easily while being handled during the painting process.

I chose dark blue for the uniform, and the bust had almost no wrinkles or folds for highlights and shadows. Using an Andrea Miniatures Blue Paint Set (No. ACS-05),



GO

ALL THE WAY

WITH Judy Jetson

Leave no task undone in the pursuit of an award-winning, 1/5 scale figure

BY MATT MROZEK

As a full-time figure model builder and painter, I do a lot of the same subject matter — mostly large-scale Marvel and DC characters. While considering what to do for *Paint Award-Winning Figures*, a client requested a Filmy's Girls 1/5 scale Judy. A garage kit of Judy Jetson as an adult based on concept art by Simon Eckert and sculpted by Roberto von Behr? It was immediately obvious that this would be the figure I'd use for my story. It's different, outside my usual topics, and gorgeously rendered, so what's not to like?

The next day, I masked all the portions that would remain green with Tamiya masking tape. When masking, I make sure to use a new No. 11 hobby blade to cut the masks as cleanly as possible. Then I sprayed everything Krylon Foil Metallic Blue and, once again, let it dry overnight.



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I removed all the tape and started detail painting: Vallejo Black, Metal Color Pale Burnt Metal (No. 77.704) and Exhaust Manifold (No. 77.723) for the robot legs and other metallic parts; Mr. Color GX Black (No. 2) followed by Mr. Color Plate Silver Next (No. SM-08) for the rearview mirror; white on the lights and gauges with the blinkers also receiving a few coats of clear red; and Vallejo Exhaust Manifold into all the panel lines. The taillights received a few coats of clear red, too, and I set all the parts aside to dry — you guessed it — overnight.



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Disaster! Well, not really. But a setback. The next day, I clear-coated the hoverbike parts with a 2K automotive gloss. They all came out fine except the clear coat reacted to the paint on the bike itself, causing the finish to wrinkle. Time to sand, prime, and repaint everything.



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I basically sanded all of the paint off the entire bike and followed my process from the beginning to refinish it. However, this time, I skipped the 2K clear coat. And it didn't matter. The finish looked great, even next to the parts that had the clear coat on them. It was finally done!



66 Time to paint Judy's outfit. I began by masking her head and neck with Silly Putty and her arms, shoulders, and chest with Tamiya masking tape. I mixed a dark red from Mr. Color Pink (No. 63), Russet (No. 81), Purple (No. 67) and White and airbrushed it over everything in thin coats. To add dimension, I shaded everything with a custom-mixed, deep, clear red.



67 The next day, I masked certain areas of the red and sprayed a few coats of gray primer over the rest of the outfit. This prevented the red from bleeding through the pink to come.



68 I thinned Createx Pearlized Magenta (No. 5302) with Createx Thinner (No. 4011) and airbrushed several thin coats before letting it dry for 45 minutes. Then I came back with my custom, deep, clear red and added shape and dimension.



69 To paint Judy's gloves, I masked the rest of the body with plastic wrap and silly putty. Then I airbrushed a base coat of Garage Kits.US Cool Gray followed by a few coats of Garage Kits.US Iridescent White to give the gloves a satin look. (Garage Kits.US paints are now out of production.)



70 I removed all the masks and got my first look at how everything came together. But Judy still wasn't done. First, I touched up any edges that needed it with dark red.

GET IN THE GAME

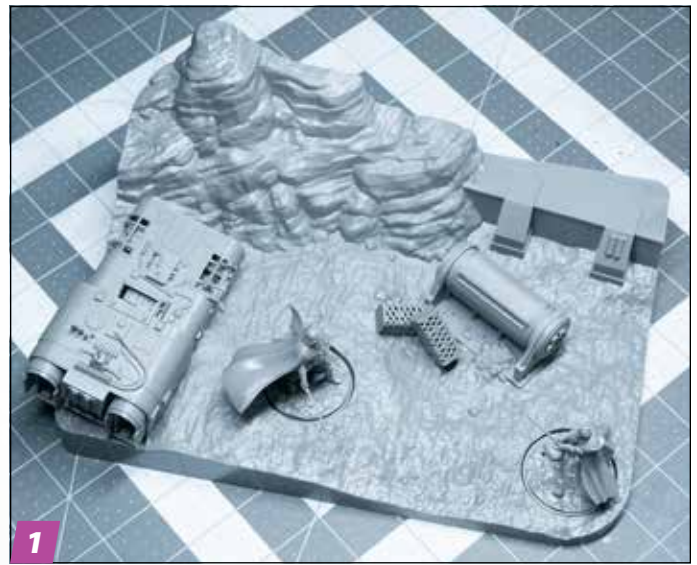


Painting miniatures and dressing up bases makes games more immersive

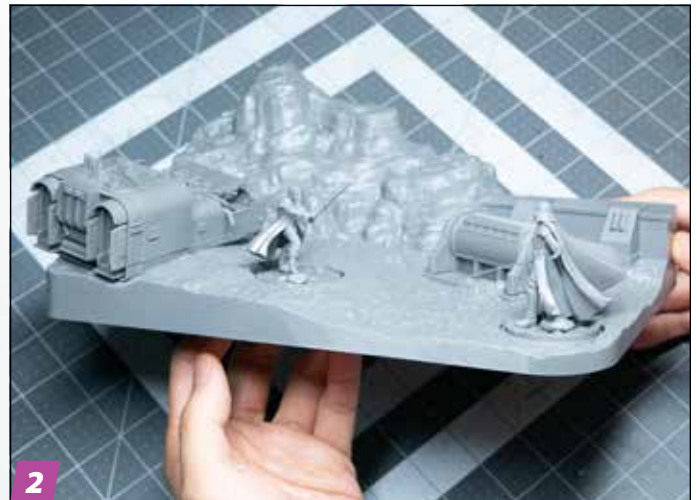
BY JOHNATHAN HO

One of the miniature tabletop games I play is *Star Wars Shatterpoint*, a tactical game where two players command various characters from the galaxy far, far away. One of the cool things about the game is that you collect and paint 40mm figures. Most are individual pieces on circular bases, but among the offerings is a set called You Cannot Run Duel Pack (No. SWP30). It features Obi-Wan Kenobi facing off with his old padawan, Darth Vader. Out of the box, the fight takes place in the deserts of Tatooine.

I wanted to build and finish this terrific scene but make a few changes to fit the theme of my other *Shatterpoint* figures. The game allows for characters in your strike team to be drawn from anywhere regardless of their side in the original stories, so it's important to me that the basing of all my *Shatterpoint* miniatures fits together consistently. In that vein, I changed the environment from desert to an overgrown jungle. The pieces' playability meant that I also considered how lighting would work so they fit the display as well as when they stand alone on the tabletop battlefield. Unless otherwise stated, I used AK Interactive 3G acrylics or enamel weathering supplies throughout.



The stock kit has Darth Vader on the left, pretty much cornered by the crashed speeder and terrain features behind. With Obi-Wan on the right, it felt like Vader was the one being hunted and trapped.



By swapping the adversaries' positions, I could reverse the narrative. I wanted to convey the impression that Darth Vader is the hunter who has his old master, Obi-Wan, literally between a rock and a hard place.



I filled minor gaps with Vallejo Plastic Putty. The fine applicator on the tube makes it easy to get it where you want it, can be smoothed with an old brush while wet, and lightly sanded.



To build up terrain on the figures' bases so I could insert Epic Basing 3D-printed crystals, I pressed on Milliput two-part epoxy putty to thinly cover the plastic.